YEAR BOOK NUMBER

15c

The OIL WEEKLY

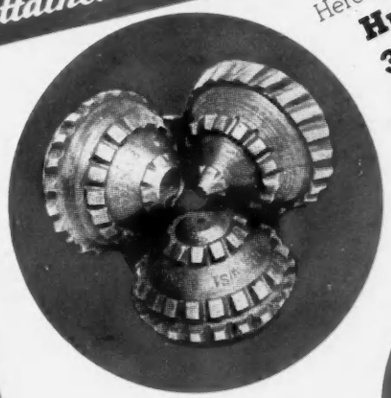
OIL and GAS ENGINEERING

FOR OIL AND GAS PRODUCERS AND PIPE LINE MEN

THE WEEK'S NEWS INTERPRETED

The OUTSTANDING DRILLING RECORD of 1935

12,786 FT. – The World's Depth Record attained in 1935 • UPTON COUNTY, TEXAS - U.S.A.



Here is the **Hughes 3-Cone Roller Bearing Rock Bit** that broke the World's Depth Record. This rock bit was on bottom below 11,377 feet.

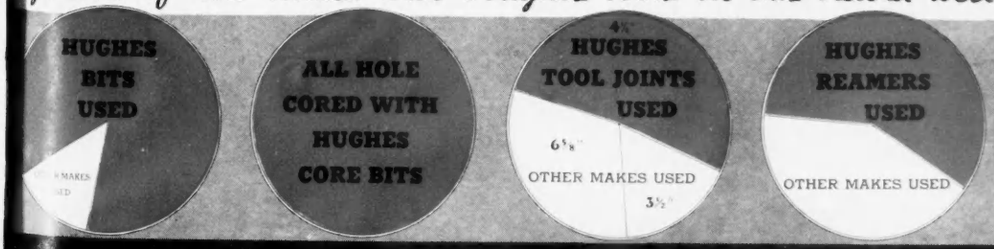
The **Hughes Hard-Formation Core Bit** broke all records for depth coring when a successful core was recovered at 12,786 feet.

This World's depth record of 12,786 ft. stands out as a tribute to the achievement of men and the development of Rotary Equipment.

The satisfactory performance of Hughes Tools in attaining this great depth is safe insurance in specifying Hughes Tools for 1936.

HUGHES TOOLS, because of constant research and improvement, have always played an important part in meeting "Tomorrow's" requirements of the industry.

Proportion of hole drilled with Hughes Tools on this record well



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HOUSTON, TEXAS

BRANCH SERVICE PLANTS: LOS ANGELES, CALIF. OKLAHOMA CITY, OKLA. MIDLAND, TEXAS

FIELD WAREHOUSES: ADA, OKLA.— SEMINOLE, OKLA.—PAMPA, TEX. HUTCHINSON, KANSAS—EUNICE, NEW MEXICO—RODESSA, LOUISIANA

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VOLUME 80 JANUARY 27, 1936 NUMBER 7

APPRECIATION

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President

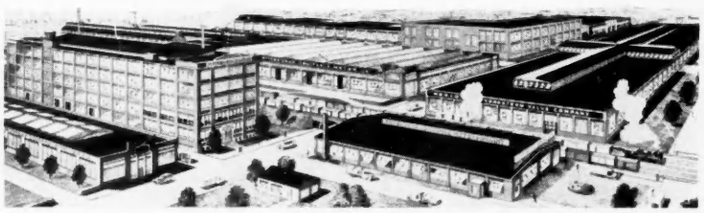
FRANK B. WOLFE
Vice President

L. A. DIXON
Vice President and
Sales Manager

Sales of Nordstrom Valves for 1935 reflect the largest increase in the history of our Company. This widespread acceptance of our Product in the oil and gas industry has been made possible by the loyal support of our customers. We are proud of the faith and high regard you hold for Nordstrom Valves. May we take this opportunity to express our genuine appreciation of your patronage and our determination to serve you even better than before.

This Company is 100% independently owned. No oil or gas company owns any of our stock nor is this Company affiliated with any oil or gas company. We make only ONE product—Lubricated Plug Valves. They HAVE to work satisfactorily or our Company couldn't exist. The continued growth of the Company and the millions of dollars worth of Nordstroms in service are significant of the excellence of our product.

Two plants are operated for the production of Nordstrom Valves—one in Oakland, California, and one in Pittsburgh, Penna. Our Oakland plant is recognized as the largest and most modern plant in the World devoted exclusively to the production of lubricated valves.



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Pacific Coast Operations

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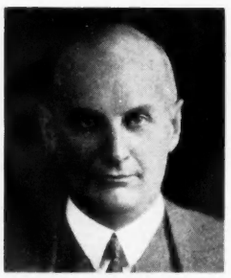

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Pacific Coast Industrialist
and Director

CHAS. W. MERRILL
Pacific Coast Industrialist
and Director

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RECEMENTING and No Circulation!

Model F Cement Retainer assembled with Trip Mechanism and Circulation Jar

Lack of free circulation is generally the greatest obstacle in recementing work. Often no circulation whatever can be obtained and squeeze jobs must be utilized to force cement behind the pipe under extreme pressures. Baker has provided a means of placing cement through tubing, under great pressure, without danger to the casing and without necessitating maintenance of pressure at the surface after the job has been completed.

BAKER CEMENT RETAINER

With Circulation Jar

The Model F Cement Retainer is a packer with a back pressure valve that is run in on the end of a string of tubing or drill pipe to any point in the casing where cement is to be discharged.

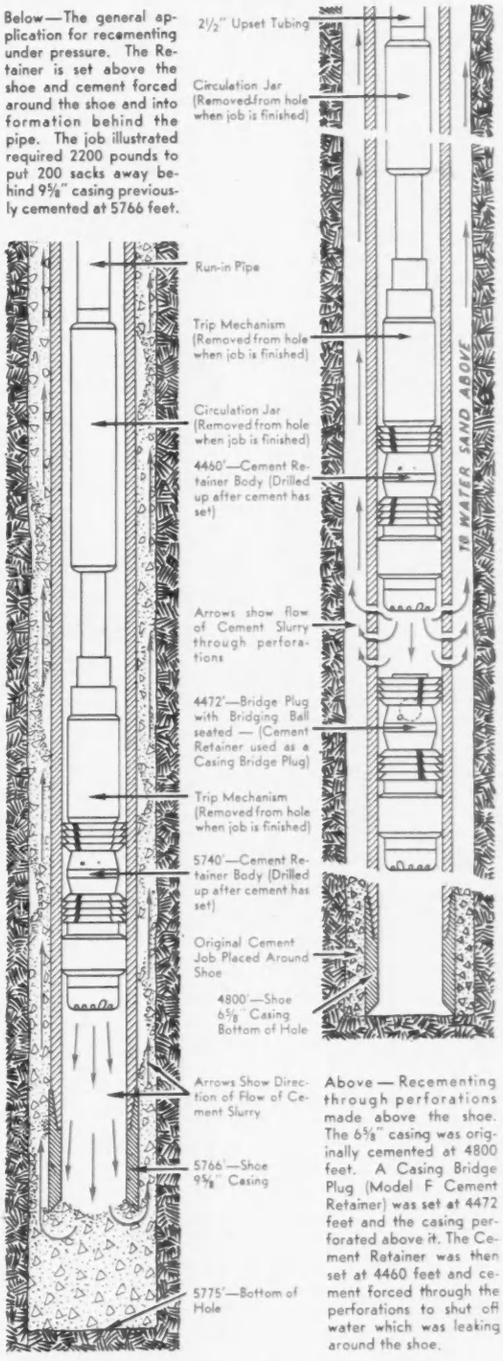
Consider these features:

- **Two sets of slips prevent its movement either up or down the hole after it has been set.**
- **A back-pressure valve prevents movement of cement back into the run-in pipe after it has passed through the body.**
- **Only the body (with all metal parts made of cast iron) is left in the hole.**
- **The run-in pipe is removed with the Trip Mechanism and Circulation Jar immediately upon completion of the job. Cement is flushed out of the tubing before it sets.**
- **The Retainer is set hydraulically and is under complete control at the surface.**
- **A Circulation Jar allows bleeding out of fluid preceding the cement. Only the cement need be forced behind the casing and into the formation.**

When cementing in low pressure zones, the cement can be kept right where it should stay by means of a Bridging Ball which prevents a hydrostatic head from forcing the cement away.

Send for details of construction and operation of the Model F Cement Retainer with Circulation Jar which is also used as a Casing Bridge Plug.

Below—The general application for recementing under pressure. The Retainer is set above the shoe and cement forced around the shoe and into formation behind the pipe. The job illustrated required 2200 pounds to put 200 sacks away behind 9⅝" casing previously cemented at 5766 feet.


2½" Upset Tubing
Circulation Jar (Removed from hole when job is finished)
Run-in Pipe
Trip Mechanism (Removed from hole when job is finished)
Circulation Jar (Removed from hole when job is finished)
4460'—Cement Retainer Body (Drilled up after cement has set)
TO WATER SAND ABOVE
Arrows show flow of Cement Slurry through perforations
4472'—Bridge Plug with Bridging Ball seated — (Cement Retainer used as a Casing Bridge Plug)
Trip Mechanism (Removed from hole when job is finished)
5740'—Cement Retainer Body (Drilled up after cement has set)
Original Cement Job Placed Around Shoe
4800'—Shoe 6⅝" Casing Bottom of Hole
Arrows Show Direction of Flow of Cement Slurry
5766'—Shoe 9⅝" Casing
5775'—Bottom of Hole

Above — Recementing through perforations made above the shoe. The 6⅝" casing was originally cemented at 4800 feet. A Casing Bridge Plug (Model F Cement Retainer) was set at 4472 feet and the casing perforated above it. The Cement Retainer was then set at 4460 feet and cement forced through the perforations to shut off water which was leaking around the shoe.

BAKER MODEL F CEMENT RETAINER

BAKER OIL TOOLS, INC.

POST OFFICE BOX 609, HUNTINGTON PARK CALIFORNIA

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● You have read in these advertisements and heard our own and our jobbers' field men say—"Pick out your worst well and let us demonstrate our ability to give you better sucker rod performance." This suggestion has been followed by a number of producers with amazing results.

Sucker rods are selected on their ability to fit pumping conditions. The well is analyzed and the particular type of sucker rod, made to fit the particular conditions of the well, is run.

The well record gives the answer. Rod breaks are reduced, down time cut and production costs lowered.

Let our Field Engineering Department cooperate with you in analyzing your worst pumping well. Ask one of our Field Representatives for a Service Record-Data Sheet—write us at Tulsa or forward your request through a jobber stocking Jones Rods. The S. M. Jones Company, Toledo, Ohio; 715 McBirney Building, Tulsa, Oklahoma.

A TYPE TO FIT EVERY PUMPING CONDITION

JONESUCKERODS

JAN 28 1936

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THE OIL WEEKLY

ENGINEERING « NEWS » STATISTICS

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That's why engineers think of Parkersburg Derricks when they think of strength

Supporting two 194-ton locomotives may be an imaginary feat but drilling the world's deepest well to a depth of 12,786 feet and safely landing 10,301 feet of 7⅝" casing is a positive accomplishment of a Parkersburg Derrick, and this record was made WITHOUT THE USE OF REINFORCING.

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YEAR BOOK NUMBER

THE OIL WEEKLY

FOR OIL AND GAS PRODUCERS
AND PIPE LINE MEN

ENGINEERING NEWS STATISTICS

WARREN L. BAKER, Editor.

. . . this Week

A BILL introduced in Congress January 22 seeks a sharp restriction of imports, elimination of tax exemptions and an increase in taxes. Imports would be limited to an amount not exceeding 4.5 percent of the average daily demand for consumption and export. The bill raises the excise taxes on crude petroleum, gas and fuel oil from one half to one cent. In addition a new tax is levied on asphalt. Taxes on gasoline and lubricating oils would be left unchanged. Exemption eliminations would deprive vessels and airplanes engaged in international trade from obtaining their fuel duty free. Page 8.

STANDARD OIL COMPANY of California last week announced it would advance crude oil prices 22 percent if producers would cut production a like amount. As a result meetings were being held in an effort to get producers together on a curtailment program. The California situation is critical, since practically all available storage will be filled immediately at the present excessive rate of production. Page 150

AN increase of 88,900 barrels in the daily average crude oil production in February is predicted as necessary by the Bureau of Mines. Increase motor-fuel demand and desire to add to gasoline inventories for the coming touring seasons are expected to require an output of 2,648,100 barrels from United States fields. It is expected that further expansion of exports will take place during the month, consequently boosting the demand for North American produced crude. All but three producing states in the Union received increased allowables, with Texas getting the "lion's share." Page 9

TEXAS was granted an increase of 47,847 barrels when the Texas Railroad Commission set the state's allowable at 1,066,992 barrels for February. This increase compares with an estimated advance of 51,300 barrels in demand for Texas oil by the Bureau of Mines. Every district, with the exception of East Texas, was given a higher allowable. The largest increase, 14,467 barrels, went to the Gulf Coast district. The Conroe field of the Gulf Coast received the largest field increase, 7100 barrels. Page 9

FROM almost every angle, 1935 was a year of distinct progress for the industry, and in some respects was the best year in history. Total demand was the greatest on record, for example. Success in balancing supply with demand enabled the oil companies to cash in on the healthy demand by having favorable markets. Export business exerted an important influence on the increase in total demand, but domestic consumption also was at a peak. Production for the year is estimated at 994,754,000 barrels, exceeding all years but 1929. However, the big demand permitted stocks to be drawn upon despite the big production. Page 12

SHARP expansion of foreign trade for the United States oil industry is shown by figures of the Department of Commerce. Crude export shipments jumped 10,000,000 barrels to 51,430,000 barrels. Export of refined products increased 8,507,000 barrels, slightly more than 5,000,000 barrels of which was gasoline, which reached the total of 26,721,000 barrels. A total of 102,333,000 barrels of crude and its products were shipped from the United States. Page 8

WHILE nations outside the United States are better off from the angle of petroleum reserves than they were at the close of 1934, exploration work in 1935 developed no sensational discoveries. Completion and operation of the Iraq line gave that region more importance in world petroleum affairs in 1935, and other developments in the Near East justify expectation that that part of the world is to play a much more important role in the future, particularly the region around the Persian Gulf. Great things, too are expected from Germany, where wildcatting may be said to be in its infancy. Page 16

HOBBS field producers voted unanimously to continue their proration agreement which has been in effect now for more than five years. Being so far out in the wide open spaces in measure accounts for the contrast of this and other areas where there is more oil currently available than is being produced, but at that it is mentionable that there has been no attempt at "cheating" on production in this field. Page 191.

The Oil Man's Calendar

FEBRUARY

13 — *American Petroleum Institute, Directors, regular quarterly meeting, New York.*

17-21 — *American Institute of Mining and Metallurgical Engineers, New York.*

20-21 — *American Petroleum Institute, Mid-Continent Spring District Meeting, Wichita, Kansas.*

MARCH

19-21 — *American Association of Petroleum Geologists, Tulsa, Oklahoma.*

19-21 — *Society of Petroleum Geophysicists, Tulsa Hotel, Tulsa, Oklahoma.*

APRIL

11-13 — *Petroleum Industry Electrical Association, Tulsa, Oklahoma.*

13-17 — *American Chemical Society, Petroleum Division, Kansas City, Missouri.*

16-18 — *National Petroleum Association, Cleveland, Ohio.*

20-25 — *Oil Equipment & Engineering Exposition, Houston, Texas.*

MAY

13-15 — *American Petroleum Institute, Mid-Year Meeting, Tulsa, Oklahoma.*

13-15 — *Natural Gasoline Association of America, Tulsa, Oklahoma.*

16-23 — *International Petroleum Exposition and Congress, Tulsa, Oklahoma.*

? — *Independent Petroleum Association, Tulsa, Oklahoma.*

JUNE

18-19 — *Pennsylvania Grade Crude Oil Association, State College, Pennsylvania.*

NOVEMBER

9-12 — *American Petroleum Institute, 17th Annual Meeting, Chicago, Illinois.*

New Import Bill

HIGHER TAX, SMALLER VOLUME AND NO EXEMPTIONS SOUGHT

WASHINGTON, D. C.

FIGHT of the independent oil interests to secure statutory limitations upon oil imports was renewed in the House of Representatives January 22 with introduction by Congressman Wesley E. Disney of Oklahoma, of a bill providing for sharp restriction of imports, elimination of the tax exemption now granted on fuel supplies for vessels and for airplanes engaged in international commerce, and increases in the taxes on crude petroleum and fuel and gas oil.

Declaring that enactment of the measure would result in diverting millions of dollars from the foreign to the domestic oil industry, "increasing the wages received by labor and the purchasing power of nearly half the states of the Union, without imposing burdens on the consumer", Representative Disney urged upon the House the desirability of prompt consideration of his bill.

Under the legislation, the taxes on imported crude oil would be increased from one-half to one cent per gallon and on fuel oil, gas oil and all liquid derivatives, except lubricating oil and gasoline, from one-half to one cent per gallon; the present rates of 2½ cents per gallon on gasoline, four cents a gallon on lubricating oil, and one cent per pound on paraffin and other wax products would be left unchanged, and a new tax of $2 per ton would be provided for asphalt, natural or otherwise. The taxes, now in the emergency temporary revenue acts, would be made permanent.

Section 3 of the measure deals with the subject of imports, limiting them to not exceeding 4.5 percent of the average daily demand for consumption and export and authorizing the President to set quotas and allocations for imports.

The bill would become effective 30 days after approval by the President.

Submitting his bill to the House, Disney explained its various provisions, asserting that tax-free importations for supplies for vessels have increased from a daily average of 6835 barrels in the last half of 1932 to 18,000 barrels in 1933, 21,000 barrels in 1934 and 36,000 barrels in the first 11 months of 1935.

"There is no reason for this exemption, which benefits no one except a few importers who do not pass on to the public the low cost of their cheap imported foreign oil," he declared.

Double Taxes

Explaining the proposal to double the taxes on crude and fuel and gas oil and to impose a tax on asphalt, he told the House "this proposed increase in these taxes is not sufficiently high to constitute any embargo upon these imports."

"Even with this increase," he said, "importers of these products will still have a considerable advantage over the domestic producer. These imports are free from the tremendous burden of local, state and federal taxes levied upon the domestic petroleum industry and are produced by labor receiving only a fraction of the American scale although working much longer hours. American labor in the petroleum industry cannot hope to compete with the type of cheap labor used in the production of foreign petroleum and its products.

"This imported petroleum has been taking a very considerable portion of the domestic market to the harm of the home industry and to the detriment of our employment programs," he continued.

"Imported foreign asphalt, because of its lower production costs, has been taking the contracts for much of the construction work under the special appropriations made by Congress which intended that domestic industry and domestic labor should be benefited by those appropriations. A very small number of importers of the foreign asphalt have been profiting greatly because of special regulations which have permitted this asphalt to take the market away from the domestic product.

Levies Asphalt Tax

"The bill besides increasing excise taxes on crude petroleum and gas and fuel oil and levying a new tax on asphalt," he pointed out, "amends the revenue act by striking out the expiration date, leaving these taxes stand until Congress shall repeal them. Additional millions of dollars revenue will be brought into the Federal Treasury through these tax increases."

Conservation of our natural resources, improvement of the industry, stabilization of markets and other factors all make necessary the imposition of the import restrictions which he proposes, Representative Disney asserted.

"The conservation of this valuable natural resource, promotion of the development of this industry in this country, the stabilization of the domestic petroleum market, the prevention of waste, security for the millions employed by this industry, and many other economic factors, all important to our return to prosperity, will be promoted by this limitation," he went on.

"The ratio as given in the bill is practically the same as that which was accepted by the importers themselves at the oil conference held under the auspices of the Interior Department in 1933, when plans were prepared to meet some of the more serious problems of the industry. It was commonly accepted throughout the industry that the certainty which would be afforded by having a definite proportionate limitation on imports would encourage the entire domestic petroleum industry and provide a sounder basis for financing its development.

"The consumer of petroleum products will not be adversely affected," he concluded, "either by these excise taxes or by this import limitation, since whatever advantage accrued from these importations has been largely absorbed by a few importing companies and has not been passed on to the consuming public."

The Disney bill is being supported by the Independent Petroleum Association and other independent organizations.

The Disney bill will be given the full support of both the anthracite and bituminous branches of the coal industry, it was declared by John D. Battle, executive secretary of the National Coal Association.

The fight against imports of oil, he asserted, is as important to the coal industry as to the domestic oil industry itself, and is one phase of the effort to rectify the competitive inequalities between coal and other fuels.

"Imports of foreign petroleum and its products, a large portion of which comes in duty free, to the harm and detriment of the domestic oil industry, is not a matter of concern to the oil industry alone," Battle said. "It is of major concern and detriment to the coal industry, for imported oil frequently displaces American coal. Millions of tons of bituminous coal have been displaced by cheap foreign oil and thereby thousands of American miners have been made jobless. Furthermore, imports of oil, by depressing the price level of domestic fuel oil in certain areas by that very fact increases the disadvantages with which coal, with a high wage level and labor factor, is now burdened, in competition with nearly laborless and wholly unregulated fuels—gas and oil."

EXPORTS EXPAND

1935 shipments jump ten million barrels

WASHINGTON, D. C.

SHARP expansion of United States foreign trade in oil and its products last year is disclosed by figures just compiled by the Department of Commerce.

Exports of crude petroleum jumped to 51,430,000 barrels valued at $61,176,000 from 41,127,000 barrels valued at $49,756,000 in 1934, it was reported.

Shipments of gasoline aggregated 26,721,000 barrels valued at $63,716,000 against 21,566,000 barrels valued at $51,233,000 the preceding year, while exports of refined mineral oils were 67,287,000 barrels valued at $168,678,000 against 64,750,000 barrels valued at $159,521,000, and lubricating oil, 8,325,000 barrels valued at $61,571,000 against 7,510,000 barrels valued at $58,234,000.

Imports of oil and its products had a value of $37,346,000 against $36,521,000 in 1934, with crude petroleum receipts of 32,513,000 barrels accounting for $23,517,000 against 35,772,000 barrels valued at $25,903,000.

A special survey of United States exports to Italy and her colonies shows that shipments of oil and its products to Italy averaged $733,132 a month last year against $505,155 in 1934, and that December shipments were valued at $2,296,008 compared with $420,437 in the same month of the preceding year. Oil exports to Italian Africa averaged $81,528 a month against $410 in 1934 and December shipments were $306,181 against $326 in December, 1934.

A similar study for Ethiopia shows that oil shipments averaged $1,112 a month in 1935. No oil was exported to Ethiopia in 1934.

Allowable Raised

BUREAU SEES NEED FOR MUCH ADDITIONAL OIL IN FEBRUARY

WASHINGTON, D. C.

A FURTHER increase of 88,900 barrels in the average daily crude oil production will be required in February to meet anticipated growing demand, it is predicted by the Bureau of Mines in its monthly forecast.

Increased motor-fuel demand and a higher allowance for additions to gasoline inventories will require an average daily production during the coming month of 2,648,100 barrels, as against 2,559,200 barrels for the current month, the bureau reported.

February motor-fuel demand is estimated by the bureau at 29,080,000 barrels, an average of 1,003,000 barrels per day, representing an increase of 6.2 percent over the actual daily average for February, 1935. "This contemplated increase in demand," it was commented, "reflects both the increasing consumption of gasoline per motor vehicle and improved business conditions."

Further expansion of exports of both crude oil and gasoline is seen by the bureau but, it is explained, "the many conflicting possibilities in international politics and economics make the task of estimating exports a difficult one." The probabilities seen by the bureau are that exports will continue far about normal, and the estimate of gasoline exports for February has been raised from 2,230,000 barrels for the current month to 2,320,000 barrels.

Stocks of finished and unfinished gasoline on November 30, last, amounted to 52,046,000 barrels and the December 31 stocks are expected to total approximately 56,000,000 barrels, while, assuming the bureau's recommendation of a 4,230,000 barrels addition in January is reached, stocks at the end of this month will be close to 60,230,000 barrels. To reach the economic level of 67,000,000 barrels (raised from 66.500,000 barrels as given in the last report, it is explained, due to an increase of 500,000 barrels in California) for March 31, an increase of 4,300,000 barrels is contemplated for the coming month.

Deducting "direct" sales of 700,000 barrels from the total demand and adding the stock increase, the bureau places 35,600,000 barrels as the required production of finished and unfinished gasoline in February. This is distributed among the various districts as follows: East Coast, 5,930,000 barrels; Appalachian, 1,290,000 barrels; Indiana-Illinois, 5,470,000 barrels; Oklahoma, 2,130,000 barrels; Kansas-Missouri, 2,180,000 barrels; inland Texas, 2,600,000 barrels; Gulf Texas, 7,690,000 barrels; Gulf Louisiana, 1,270,000 barrels; Arkansas-inland Louisiana, 680,000 barrels; Rocky Mountain, 750,000 barrels; California, 5,010,000 barrels.

The percentage of natural gasoline in the gasoline to be manufactured in February is estimated at 6.8 percent against 7.3 percent for January, reflecting the lessened need for high volatile winter gasoline, but slightly higher than the actual percentage for February, 1935. Applied to total required refinery production, this percentage is equivalent to 2,380,000 barrels of natural gasoline which, deducted from the total requirement, leaves 32,620,000 barrels to be made from crude oil.

The percentage yield of gasoline is estimated at 44.05, the same as for January, giving 74,060,000 barrels of crude to be run to stills.

Runs to stills of foreign crude are figured at 2,740,000 barrels, practically the same for the current month, while the estimate for exports has been raised from 3,570,000 barrels to 3,610,000 barrels, and the estimate of fuel and losses is placed at 2,300,000 barrels. Provision is made for the withdrawal of 15,000 barrels a day from stocks during February, against 26,000 barrels recommended for January, but the reduction will affect California only, a net increase of 3600 barrels a day being provided for east of California.

On the basis of these computations, the daily average production for the coming month is estimated at 2,648,100 barrels, the increase over January being split up so that all but three of the producing states will participate. In Kentucky and Indiana, the quotas will remain unchanged; Illinois will suffer a reduction of 100 barrels a day.

Bureau of Mines Recommendations for February Production

	February	January	Increase
Texas	1,068,200	1,017,200	51,000
California	529,600	517,800	11,800
Oklahoma	483,700	481,000	2,700
Kansas	137,400	134,000	3,400
Louisiana	141,100	132,600	8,500
New Mexico	61,300	59,300	2,000
Michigan	44,800	42,200	2,600
Pennsylvania	42,900	39,700	3,200
Wyoming	34,400	33,200	1,200
Arkansas	29,900	28,900	1,000
Kentucky	14,500	14,500	....
Montana	11,900	11,300	603
Illinois	11,200	11,300	*100
Ohio	10,400	10,200	200
New York	10,500	10,100	400
West Virginia	10,300	10,000	300
Colorado	3,800	3,700	100
Indiana	2,200	2,200	....

*Decrease.

MARKETING FIGHT

Independents lining up against big companies

WASHINGTON, D. C.

INDEPENDENT distributors in all industries in which producers exercise any control of distribution are being enlisted in the Independent Business Institute recently organized by Paul E. Hadlick, secretary and counsel of the National Oil Marketers Association, to work for the enactment of state laws which would prohibit the conduct of intrastate business by foreign corporations, it was learned here January 23.

The Institute was quietly incorporated under the laws of the District of Columbia late last month, it has been disclosed. Independent chapters will be organized in each state, each to work for adoption of the law by its own state legislature.

The plan for the legislation was outlined by Hadlick at a meeting of the Wisconsin Petroleum Association at Milwaukee, January 8. Under the proposed bill, no foreign corporations, except common carriers and insurance companies, would be licensed to carry on intrastate business in the enacting state, and domestic corporations would be denied charters unless they could show they were not controlled directly or indirectly by any other corporation. No corporation would be permitted to engage in business as both a manufacturer and distributor in intrastate commerce.

TEXAS ALLOWABLE UP

East Texas and Barbers Hill get reductions

AUSTIN.

THE February statewide proration order issued by the Texas Railroad Commission last week will permit the production of 1,066,992 barrels per day, an increase of 47,847 barrels per day above the allowable fixed on January 1. The new allowable is 1308 below demand of 1,068,300 barrels daily as determined by the Bureau of Mines. Their calculation is that the demand will be 51,300 barrels per day in excess of the demand for January crude.

Increases were distributed generally, and there was an increase for every district except East Texas.

The East Texas allowable was fixed at 432,264 barrels. The method of allocation remained the same, but the percentage factor of the total field potential, which will permit production of the amount fixed by the order, will not be determined for several days. The order merely provides that the factor shall be "a certain percent" of the potential of all wells as shown by the new potential map which was introduced at the statewide hearing.

It seems likely that the effect will be to permit production of three percent of the hourly potential of all wells in the field.

When the January order was issued commission officials estimated that the East Texas allowable would be 428,000 barrels daily on January 1. By January 11 the total field allowable was in excess of 433,000 barrels per day, so that the application of the provisions of the new order will mean a cut in the total allowable for the field of 2000 or 3000 barrels per day, effective on February 1.

Application of the new potential map introduced at the hearing will have the effect of distributing a larger share of the total field allowable among the better wells in the heart of the field. It also will have the effect of increasing the spread between the allowance made to the poorest and that made to the best well. This should have the effect of placing the order on a basis far more sound since it more equitably distributes production in proportion to the potentials of the wells.

By districts the increases were as follows: The Panhandle was raised 1500 barrels to 61,300 barrels; North Texas was increased 1000 barrels to 58,500

barrels; West Central Texas was increased 790 barrels to 50,991 barrels.

West Texas was increased 11,238 to 134,318 barrels; East Central Texas was increased 6975 to 49,207 barrels; Southwest Texas was increased 7612 to 116,329 barrels; Gulf Coast was increased 14,467 to 163,083 barrels, the largest increase ordered for any district.

For the first time an allocation was made to the Rodessa area which was set up as a separate district. This allocation amounted to 500 barrels per day.

The largest increases granted to individual fields were allowances made to those fields which were reduced last month by approximately 17 percent. Conroe was raised 7100 to 42,025 barrels, the largest increase ordered for any individual field. The Yates field was raised 4869 to 38,124 barrels per day, and Van was increased 4510 to 35,733 barrels per day.

Plymouth received the largest increase in Southwest Texas, a raise of 2020 resulting in an allowable of 5720 barrels. Loma Novia was raised 1050 to 7525 barrels. Pearsall was raised 520 to 5500 barrels. An increase of 525 barrels resulted in an allowable of 3775 barrels per day for the Dirks field.

The New Saxet field was increased 1211 to 5351 barrels per day, and Old Saxet was allocated 2294 barrels, an increase of 594.

There were several increases in the Gulf Coast. Thompson was raised 2000 to 10,738 barrels per day; Hastings was raised 700 to 4900 barrels per day. There was a 1000-barrel increase for Manvel, distributed equally to the Miocene and Oligocene fields. This resulted in a 4000-barrel allowance for the Miocene wells and 5500 barrels for the Oligocene wells.

In West Texas McCamey was raised 1080 to 7500 barrels. Church and Fields was increased 600 to 6600 barrels. Crane-Waddell was increased 545 to 1055 barrels, and Ector-Penn was raised 588 to 6088 barrels. The Gulf McElroy field was increased 400 to 4400 barrels. Howard Glasscock was increased 2000 to 20,000 barrels. The South Ward field was raised 445 to 10,245 barrels; Sayre was raised 885 barrels to 3085 barrels per day.

The only important cut outside East Texas was a reduction of 1200 barrels per day in Barbers Hill which cut that allowable to 16,000 barrels per day.

Gas

The commission for the first time fixed gas allowables below market demand. This action was taken with the evident purpose of adjusting sour gas production to sweet gas production in the Panhandle area in such a manner that the percentage of potential of each gas produced daily would be more nearly the same.

Sour gas production in the Panhandle was limited to a maximum of 15 percent of the daily potential. The commission pointed out on its order that casing head plants will furnish a source for the additional supply of gas needed to supply the demand of carbon black plants.

The allowable for the remaining areas were fixed at the market demand for gas from those areas. An allowance of 199,045,000 cubic feet was made to the sweet gas area in the East Panhandle, and the sweet gas allowable for the West Panhandle area totaled 625,803,000 cubic feet. The allowance for sour gas from the Panhandle was fixed at 387,693,000 cubic feet, and each compared with a demand for 487,705,000 cubic feet.

For those fields outside the Panhandle the commission fixed an allowable of 375,505,000 cubic feet daily, and the sour gas allowance was fixed at 9,695,000 cubic feet.

ELECT DIRECTORS

Texas Mid-Continent Oil Association reorganizes

FORT WORTH.

THE Texas Division of the Mid-Continent Oil & Gas Association girded its loins Saturday at a meeting in Fort Worth to fight discriminatory taxes which speakers said were threatening the industry in Texas with ruin.

It was decided to concentrate the association's efforts on opposition to such taxes and a call for membership among all producers, royalty people and supply people involved was issued.

As a part of the fight, a reorganization of the association was proposed. Associate memberships, carrying a much lower membership fee, was proposed to take care of the smaller producer to whom the sustaining membership fee would seem large.

The staff of the division will be enlarged to include tax experts and others who will work at the job of developing and presenting pertinent information to those who should have it.

The board of directors was enlarged to include representation from all parts of the states and from the ranks of the various oil organizations which may have some other aim as a primary purpose.

The following board was chosen:

J. B. Bond, Longview; M. W. Blair, United Producers Company, Wichita Falls; E. H. Blum, Atlantic Oil Producing Company, Dallas; J. S. Bridwell, Bridwell Oil Company, Wichita Falls; R. J. Boyle, attorney, San Antonio; Al Buchanan, drilling contractor, San Antonio; F. W. Burford, East Texas Refining Company, Dallas; D. H. Byrd, Byrd-Frost, Inc., Dallas; Chas. E. Beyer, Big Lake Oil Company, San Antonio; Mills Bennett, producer, Houston.

W. D. Cline, producer, Wichita Falls; J. D. Collett, producer, Fort Worth; R. A. Crawford, Lone Star Gas Company, Dallas; Frank Cullinan, Republic Production Company, Houston; L. H. Cullum, North Texas Oil & Gas Association, Wichita Falls; B. C. Clardy, Shell Petroleum Corporation, Houston; H. R. Cullen, Cullen & West, Houston; Frank Corzelius, International Petroleum Company, Fort Worth.

Rodney Delange, San Antonio; R. L. Dudley, Gulf Publishing Company, Houston; E. J. Dunnigan, Jr., Panhandle Producers & Royalties Association, Pampa.

J. A. Elkins, Houston; E. H. Eddleman, International Derrick & Equipment Company, Dallas; Don Emery, Phillips Petroleum Company, Amarillo.

Walter Fair, Tyler; W. H. Francis, Magnolia Petroleum Company, Dallas; E. M. Freeman, The Texas Company, Houston.

W. T. Graham, Corpus Christi; L. A. Grelling, Jr., Tyler; D. S. Golding, American Liberty Oil Company, Dallas; E. B. Germany, producer, Dallas; J. R. Gahan, Tide Water Oil Company, Houston.

Jake L. Hamon, Cox & Hamon, Inc., Dallas; J. C. Hunter, Grisham & Hunter, Abilene; L. R. Hogg, Amarillo; George Heyer, General Crude Company, Houston; E. S. Heyser, Dallas; George Hill, Houston Oil Company, Houston; C. W. Hoffman, Eastland; R. H. Hargrove, United Gas Public Service Company, Houston; H. L. Hunt, H. L. Hunt, Inc., Tyler, W. B. Hamilton, Wichita, Falls.

J. W. Hassell, Dallas; Harry Hines, Wichita Falls; Walter Holmes, Amarillo; C. W. Hoffman, Eastland; John W. Herbert, Falcon Oil Company, Fort Worth; Lee Heltzel, Cisco; J. K. Hughes, Mexia.

Wallace Jenkins, Jenkins Oil Corporation, Dallas; Lenois Josey, Circle Oil Company, Houston.

E. H. Keator, Southwest Drilling Company, San Antonio; O. W. Killam, Laredo; R. A. King, King Royalty Company, Wichita Falls.

Roy Laird, Kilgore; J. F. Lucey, Lucey Petroleum Company, Dallas; E. A. Landreth, Landreth Production Company, Fort Worth.

Leslie McKay, Austin; A. M. McCorkle, Stanolind Oil & Gas Company, Fort Worth; Chas. P. McGaha, Fain-McGaha Oil Corporation, Wichita Falls; Eugene McElvaney, Dallas; W. W. McIlroy, McIlroy Oil Company, Amarillo; D. B. McDaniel, Houston; George McCamey, Cordova Union Oil Company, Fort Worth.

W. J. Morris, Continental Supply Company, Dallas; H. E. Marsh, Amerada Petroleum Corporation, Fort Worth; W. A. Moncrief, Fort Worth; Edward T. Moore, Simms Company, Dallas; R. H. Morrison, The California Company, Dallas; H. J. Morlang, National Tube Company, Dallas; George D. Morgan, Cardinal Oil Company, San Angelo; Joe Morris, Norden & Morris, Laredo; Clifford Mooers, Wichita Falls.

W. R. Nicholson, Longview; Maston Nixon; John F. O'Donohoe, United Producers Company, Wichita Falls.

J. R. Penn, Texas Pacific Coal & Oil Company, Fort Worth; John G. Pew, Sun Oil Company, Dallas; W. B. Pyron, Gulf Production Company, Houston; J. R. Parten, Woodley Petroleum Company, Houston; W. M. Priddy, Wichita Falls; Chas. F. Roeser, Roeser & Pendleton, Inc., Fort Worth; T. F. Rothwell, Beaumont; C. R. Rubsamon, San Antonio.

R. F. Schoolfield, Duval Oil Corporation, San Antonio; John R. Suman, Humble Oil & Refining Company, Houston; E. L. Smith, E. L. Smith Oil Company, Mexia; George Sawtelle, Kirby Petroleum Company, Houston; J. P. Shannon, Snowden & McSweeney Company, Fort Worth; George Strake, Strake Oil Company, Houston.

J. Taylor, Amarillo; Fred Turner, Jr., Midland.

Joseph M. Weaver, Weaver-Crim Company, Eastland; J. C. Wilson, Wilson-Broach Company, Beaumont; Lloyd Wheelock, Corsicana; Helme Weinert, Seguin; Roy Westbrook, Fort Worth; Jim West, Cullen & West, Houston.

C. A. Young, American Petroleum Institute, Dallas; Marshal P. Young, West Texas Oil & Gas Association, Breckenridge.

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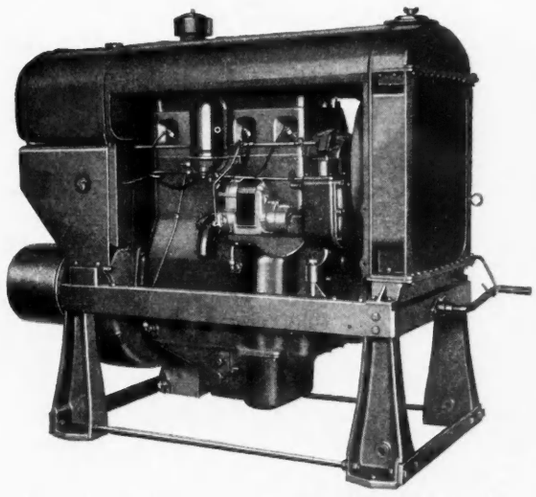

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1935 Was Decidedly

By L. J. LOGAN

RECOVERY PROCEEDS ALONG ALL LINES AND FURTHER ADVANCE IS ANTICIPATED

VIEWED from almost any angle, 1935 must be regarded as a year that was distinctly favorable for the petroleum industry. In various respects, indeed, 1935 was the best year in the history of the industry. Total domestic demand for petroleum, for example, was the greatest on record; and the domestic consumption of gasoline, similarly, set a new all-time record.

Indications point, moreover, to further gains and improvement for the industry during 1936. In fact, the new year hardly had dawned when substantial improvement materialized, in the form of increases in the prices of crude oil, gasoline, kerosene, and other products, throughout most of the country. At present, all things considered, it seems quite logical to expect that 1936 will be a particularly favorable year in many respects.

Results in 1935 Summarized

Featuring the 1935 record for the petroleum industry was the continued upward trend of demand. The demand has been on the increase since starting out of the depression in the latter part of 1933. For 1935 total demand for United States oils practically equaled the 1929 peak, while the domestic part of the demand set a new record. The demand for export purposes also showed an increase for 1935. The record domestic demand was primarily the result of a new all-time peak of gasoline consumption, while other products also were in greater demand.

The industry was able to cash in, moreover, on the healthy demand, by virtue of the fact it succeeded in balancing supply with the demand. In fact, the supply was held below the requirements, with the result that over 20,000,000 barrels of oil, mostly crude, was withdrawn from storage in meeting demand.

With supply held below demand, and storage decreasing, the markets were generally favorable during 1935. Crude prices were mostly unchanged, although some revisions occurred. Product prices, however, improved early in the year, wholesale and retail, and for the rest of 1935 were generally favorable. Gasoline tank car prices in the Mid-Continent, for instance, were comparatively high during the last three quarters of the year, holding most of that time to the best levels since late 1930. The strong tank car market was in favorable contrast with the depressed markets that had prevailed for several years previously.

The circumstances mentioned above meant that the oil companies did a record volume of business at generally satisfactory prices. The result was that the companies generally showed the highest earnings since 1930; while for some companies, profits were the best on record.

TABLE 1
Demand of All Oils

YEAR	(BARRELS)			
	Total Domestic Demand	Exports of Crude Oil	Exports of Refined Products	Total Demand
1926	781,080,000	15,407,000	116,543,000	913,030,000
1927	802,343,000	15,844,000	125,805,000	943,992,000
1928	860,434,000	18,966,000	135,991,000	1,015,391,000
1929	940,083,000	26,401,000	136,719,000	1,103,203,000
1930	926,450,000	23,705,000	132,794,000	1,082,949,000
1931	903,206,000	25,835,000	98,859,000	1,027,600,000
1932	835,482,000	27,393,000	75,882,000	938,757,000
1933	868,488,000	36,584,000	70,143,000	975,215,000
1934	920,164,000	41,127,000	73,380,000	1,034,671,000
1935*	*977,582,000	*50,257,000	*75,589,000	*1,103,428,000

*Subject to revision; embodies estimate for December.

Total Demand Around 1929 Peak

Total demand for United States petroleum in 1935 almost exactly equaled the all-time peak set in 1929. For the first 11 months of 1935 the total demand was 6.66 percent higher than in that period of 1934. The same percentage of gain for all 1935 would mean a total demand of 1,103,428,000 barrels for the year, or practically the same as the all-time peak of 1,103,203,000 barrels in 1929.

Exerting an important influence on the increase of the total demand was the sharply higher export business in 1935. For the first 11 months the exports of crude were 22.2 percent greater than in 1934, indicating that for all 1935 the total will be around 50,257,000 barrels, a new peak. The exports of crude have been increasing steadily for a decade, during which time they have tripled, reflecting the increasing of refining facilities outside the United States. Nevertheless, exports of refined products also have been increasing slightly during the past two years, after falling in 1933 to the lowest level since 1922. For the first 11 months of 1935 the refined oil exports showed a three percent increase over the corresponding period of 1934, indicating for all of 1935 a total of about 75,589,000 barrels.

Domestic Demand Sets Record

Further gains in domestic consumption were, nevertheless, primarily responsible for the substantially higher total demand in 1935, the domestic demand setting a new all-time peak. For the first 11 months of the year, the total domestic demand was 6.24 percent higher in 1935 than in 1934. The same percentage of improvement for all of 1935 would put total domestic demand for the year at 977,582,000 barrels, or about four percent above the previous peak of 940,083,000 barrels, established in 1929.

Contributing greatly to the increase in domestic

A Favorable Year

Associate Editor

ALL-TIME PEAK DEMAND OUTSTANDING AMONG SEVERAL CONTRIBUTING FACTORS

demand was the continued enlargement of gasoline consumption, which again in 1935, as in the previous year, established a new all-time peak. This rising trend of demand for gasoline is significant, since gasoline is the industry's most important product and principal revenue-raising item. For the first 11 months of the year, the total domestic demand for gasoline was 5.9 percent higher in 1935 than in 1934. That percentage of gain for the full year would mean a total gasoline demand in 1935 of 431,125,000 barrels, compared with the previous peak of 407,106,000 barrels set last year.

Most of the other products also showed important increases in demand for 1935. Gas oil and fuel oil, second to gasoline in volume of output, had a five percent gain in demand for the first 11 months of 1935, compared with the similar period of 1934. Still gas production, an important item in domestic demand, was up 14 percent for the 11 months. Domestic demand for kerosene, meanwhile, showed an increase of almost eight percent, reflecting wider use of tractors and other stimulants to consumption. Greater industrial activity brought a six percent increase in the domestic demand for lubricants. More work on highways and streets resulted in demand gains of 16 percent for asphalt and five percent for road oil. The demand for wax was up more than seven percent. The only product that was in smaller demand than in 1934 was coke, which showed a 11 percent decrease.

Table 1, based on reports by the Bureau of Mines, shows the trend of demand for all United States oils during the past decade.

Supply Restricted to Demand

Again in 1935 as for several years previously, there was close balancing of new supply with the existing demand for oils. This balancing was so effective, in fact, that the new supply was held even below the demand, permitting further substantial withdrawals from above-ground storage. In the first 11 months of 1935 the total stocks of all oils were reduced more than 25,000,000 barrels.

Of the two sources of new supply, domestic production and imports, the latter reflected the greater restraint on the part of the industry. While the domestic production was more than nine percent higher in 1935 than in 1934, the imports in the aggregate were up less than five percent.

Crude Production Near 1929 Peak

United States crude oil production in 1935 aggregated about 994,754,000 barrels, or about 9.5 percent more than in 1934. This amount exceeds the output for any previous year except 1929, and almost equals the 1929 production of 1,007,323,000 barrels. The total given for 1935 is based on Bureau of Mines figures for the first 11 months of the year and on estimates for December with the aid of American Petroleum Institute weekly reports. How this figure compares with Bureau of Mines totals for earlier years during the past decade is shown in Table 2.

The American Petroleum Institute has not attempted in its weekly production estimates to include oil produced surreptitiously. Consequently, statistics based on those reports indicate production of only 973,597,970 barrels in 1935. The difference between that total and the Bureau of Mines basis total indicates that at least 21,000,000 barrels of oil was produced surreptitiously or clandestinely during 1935. The year therefore brought material reduction of such production, for the illegal output had been around 30,000,000 barrels in 1933 and about the same in 1934. A large part of the clandestine production for each year occurred in the East Texas field. Estimates indicate that in the latter part of 1935 the East Texas hot oil output was reduced to the comparatively low level of about 15,000 barrels daily. The decline of the illegal production represented one important cause for the improvement of the gasoline market during 1935, for hot gasoline from East Texas previously had been exerting a depressing influence on the whole Mid-Continent market.

Increases in production were not quite as large for natural gasoline and benzol as for crude petroleum. For the first 11 months of 1935 the natural gasoline production of 35,204,000 barrels represented an increase of nearly six percent over the similar period of 1934. Benzol production, totaling 1,685,000 barrels for the 11 months of 1935, was up 6.8 percent.

Total Imports Up Slightly

All imports of oils, crude and refined and bonded and for domestic use, were about 4.6 percent greater for 1935 than for 1934, a total of about 52,850,000

TABLE 2
United States Production

YEAR	Barrels
1926	770,874,000
1927	901,129,000
1928	901,474,000
1929	1,007,323,000
1930	898,011,000
1931	851,081,000
1932	785,159,000
1933	905,656,000
1934	908,065,000
1935	*994,754,000

*Preliminary.

TABLE 3
Total Imports of Oils Into the United States

YEAR	Barrels Crude	Barrels Refined	Barrels Total
1926	60,382,000	20,938,000	81,320,000
1927	58,383,000	13,353,000	71,736,000
1928	79,767,000	11,790,000	91,557,000
1929	78,933,000	29,777,000	108,710,000
1930	62,129,000	43,489,000	105,618,000
1931	47,250,000	38,837,000	86,087,000
1932	44,682,000	29,812,000	74,494,000
1933	31,893,000	13,501,000	45,394,000
1934	35,558,000	14,936,000	50,494,000
1935	*31,750,000	*21,100,000	*52,850,000

*Subject to revision; embodies estimate for December.

barrels being indicated for 1935. While that figure represents a further increase from the low mark of 45,394,000 barrels imported in 1933, it is substantially under the 74,494,000 barrels received in 1932 and the totals for earlier years during the past decade.

While the total imports showed a small gain for 1935, the refined oil imports were up sharply and crude oil imports were down substantially. For the first 11 months of 1935, total refined oil imports were 41.3 percent greater than in that period of 1934, indicating the 1935 total was around 21,100,000 barrels. That is substantially more than in 1933 as well as 1934, but not as much as in 1932 or the several earlier years. Crude oil imports for the 11 months were down, on the other hand, by 10.7 percent, indicating a 1935 total around 31,750,000 barrels, the least for many years.

Table 3 gives a comparison of the indicated 1935 imports with Bureau of Mines figures for earlier years in the past decade.

Taking into consideration only imports for domestic use, and excluding those going to bonded warehouses for re-shipment, the imports for 1935 were about six percent lower than for 1934; as a decrease of crude imports more than offset a gain in refined oil imports. For the first 11 months the crude oil imports for domestic use totaled 22,479,000 barrels in 1935, compared with 28,132,000 barrels in 1934, a 20 percent decrease. Refined oil imports in the 11 months of 1935 totaled 7,646,000 barrels, against 4,167,000 barrels in that period of 1934, an increase of 83 percent.

Stocks Reduced Further in 1935

With production and imports held somewhat below the actual demand in 1935, requirements were met in part by further withdrawals from storage. For the year total stocks of all oils are indicated to have decreased around 20,000,000 barrels.

The country's above-ground stocks have been shrinking, indeed, with some interruptions, for nearly six years, during which time they have come down about 55,000,000 barrels. From the peak of 700,808,000 barrels on hand May 31, 1930, the stocks of all oils had declined by November 30, 1935, to 545,186,000 barrels.

In the first 11 months of 1935 the total stocks of all oils decreased from 564,350,000 to 545,186,000 barrels, or almost 20,000,000 barrels. The stocks of refined products increased about 2,500,000 barrels, standing at 225,711,000 barrels on November 30. But crude stocks continued declining, coming down nearly 22,000,000 barrels, or to 315,558,000 barrels on November 30.

Although Bureau of Mines figures are not yet available on the stocks at the end of December, pertinent information indicates that the net change in all stocks probably was not very great during December. Gasoline stocks increased about 4,000,000 barrels during the month, in preparation for the expected higher demand of spring; but the heavy refinery runs resulted in withdrawal of about 1,500,000 barrels of crude from storage during the month. Meanwhile, there were reductions also in the stocks of some of the refined products, exclusive of gasoline.

Table 4, based on Bureau of Mines reports, shows the trend of stocks held in the United States during the past decade.

The total stocks of all oils held November 30, 1935, was the lowest for almost nine years. To find a lower figure, the records must be traced back to February 28, 1927, when the stocks totaled 544,396,000 barrels.

TABLE 4
Stocks on Hand at End of Year

YEAR	(BARRELS) Crude Oil	Natural Gasoline	Refined Products	Total Stocks, All Oils
1926				527,084,000
1927				597,176,000
1928				621,010,000
1929				*689,166,000
1930	411,882,000	3,100,000	251,680,000	666,662,000
1931	370,194,000	2,825,000	258,879,000	631,898,000
1932	339,875,000	3,203,000	249,116,000	592,194,000
1933	354,223,000	3,680,000	244,295,000	602,198,000
1934	337,254,000	3,740,000	223,356,000	564,350,000
1935	†315,558,000	†3,917,000	†225,711,000	†545,186,000

*The stocks continued rising in first five months of 1930, reaching a peak of 700,808,000 barrels, May 31, 1930.
†Stocks on hand November 30, 1935.

Drilling Up 20 Percent

Drilling activity was stimulated in 1935 by favorable prices for crude oil and the generally strong markets for refined products, as well as by the rising demand for petroleum and the need for additional reserves. Consequently, completions of wells rose to 21,132 the most since 1929. The 21,132 completions of 1935 were 20.7 percent more numerous than the 17,508 of 1934, and were almost twice the total for 1933, when the low point of the depression was reached in field work.

As regards completions, field work was near the average that prevailed in the 1920's. Table 5 gives a comparison of the completions in 1935 with those of earlier years.

In 1935 there was a further decline in average initial producing capacity of wells in the United States, the average having been the lowest since 1930. This decrease reflected a further decline of the dominance of the East Texas field and the continued recovery of field development in other areas toward more normal proportions.

TABLE 5
Wells Completed in the United States

YEAR	Number Of Wells
1923	20,513
1924	21,713
1925	25,406
1926	28,995
1927	22,301
1928	19,964
1929	23,463
1930	19,848
1931	11,716
1932	14,290
1933	11,700
1934	17,508
1935	21,132

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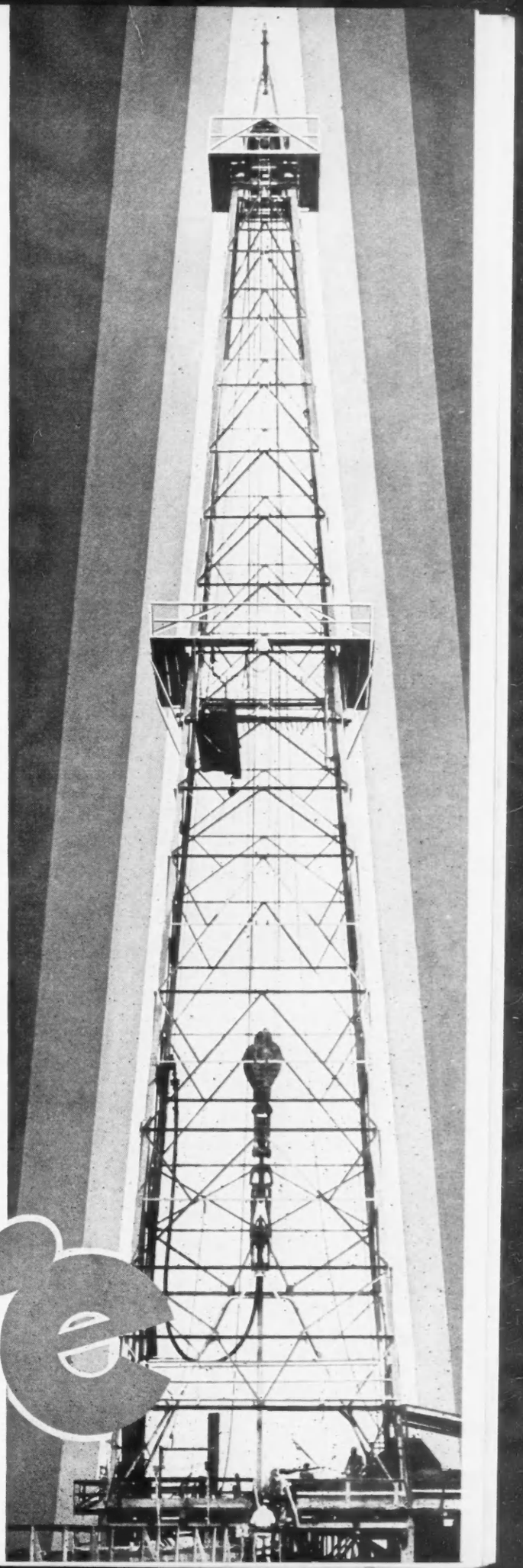

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By FREDERICK G. CLAPP, Consulting Geologist,
50 Church Street, New York, N. Y.

AN expressed or subconscious conception of the nature of the world's petroleum reserves may be an essential foundation for a clear discussion of foreign oil developments. Hence it is important to bear in mind the vast differences between proved and reasonably expected reserves on the one hand and the legitimate but frequently unproductive aspirations of promoters and nationalist governments on the other. Highest in the first-mentioned prospect is the oil of the Union of Soviet Socialist Republics; whereas, in the second-named type come intensive researches such as are being conducted in Australia and Brazil.

Reserve Estimation Important

The Garfias estimate of reserves in 1933 went generally unchallenged until 1935. Discussions that took place in the first-mentioned year among members of the American Institute of Mining and Metallurgical Engineers had offered no great controversy on the subject. The proved reserves of the Soviet Union were there set down as 3,000,000,000 barrels or 12.2 percent of the world's total. In 1935 quite a different story came from Russia itself. The second five-year oil plan seems largely to have been forgotten, judging by the fact that that country produced only 168,000,000 barrels in 1934 and about the same volume in 1935—the yield being but 10.4 percent of the total production of the world.

Meanwhile the Russians themselves have been estimating reserves. Although the differentiation between proved and speculative estimates may seldom have been a debatable issue in the United States, in the land of the Soviets, on the contrary, we find proved reserves constantly confused with highly speculative figures. Whereas the proved Russian reserves were declared in 1933 to be one-quarter as great as those of the United States, they were in 1935, on the estimate of a prominent Russian geologist about 17,000,000,000 barrels or one and a third times those of the United States.

The Russian figure may not be an unreasonable one as a speculative guess, but it certainly does not refer to *proved* reserves. From the standpoint of the geology, coupled with seepages and other indications widely distributed through the Soviet Union, probability exists that the oil yield of that country may pass that of the United States in due course if the U. S. S. R. succeeds in surmounting its technical problems. A large number of wells are drilling in the Soviet Union, but the oil supply available to refineries was not increased in 1935. It may be fortunate for the American oil industry that the Soviets have failed to co-ordinate their activities to the extent of making their oil business efficient.

Persian Gulf Is Advanced

In our own country the figure representing proved reserves has again been augmented in a report of a committee of the American Petroleum Institute; and, similarly, foreign figures are increased somewhat. For instance, an outstanding development of 1935 is a report that Saudi Arabia has been proved as a prospective field by drilling at Irassa. This constitutes one more link in a chain of production that is gradually becoming recognized as surrounding the Persian Gulf, which therefore constitutes a definite petroleum province.

This fundamentally favorable region is a vast basin, bounded on the east by the Zagros Mountains of western Iran, north of Mosul by the igneous or metamorphic highlands in southern Turkey, on the west by highlands of Syria and Transjordan and the Arabian pre-Cambrian complex, on the south the unfavorable mountain area of Oman Peninsula. The great central basin is as much a geologic entity as is the Big Horn Basin of Wyoming or the Permian Basin of West Texas. In addition to Anglo-Iranian Oil Company's producing fields at Masjid-i-Suleiman and Haft-qel in southern Iran, the Bahrein field has already been developed by Standard Oil Company of California and prospect by the same company has been continued on the coast of eastern Arabia and in the territory of Koweit by Gulf Oil and Anglo-Iranian Companies jointly.

Perhaps completion of the Bahrein and Arabian

PERFORMANCE *on the* HOOK

The world's record for drilling with the heaviest string of drill pipe went to the Denver Producing & Refining Company when they ran down the last joint of drill pipe to set their record string of 7,830 feet of 9⅝" casing at their Sah-Cum Well No. 1.

And the record for the heaviest load ever carried by an oil well swivel bearing went to the Timken Main Load Bearing in the Wheland-Lucey Type E-6500-B Oil Bath Swivel used on this job.

At 7,830 feet, 240,000 pounds dead weight was suspended and rotated on the swivel with absolute safety. That, as the swivel manufacturer says, is "Performance on the hook". It pays to specify Timken-equipped.

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

TIMKEN *TAPERED ROLLER* BEARINGS

test wells may add half a billion barrels to the previously published estimates of some 4,500,000,000 barrels for that group of countries. A reported deep sand in Burman wells may add a small reserve to that part of the world, but is only a drop in the bucket of Asiatic oil. So far as the world reserves are concerned, there seems to be no reason yet to change the 1933 estimate materially; this may be considerably modified in 1937 when the International Geological Congress meets at Moscow and discusses the subject in a scheduled symposium.

European Countries Active

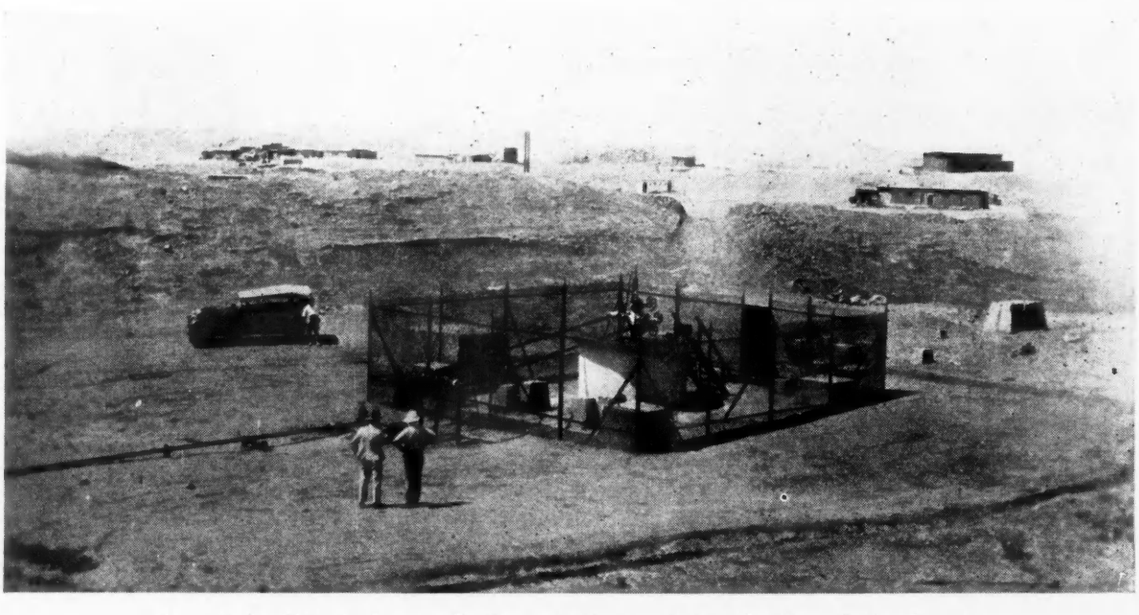
If the above items constitute about all the test wells drilled in 1935 in Asia, in Europe the story is different, for prospecting is going on in many countries. Germany continues in the lead and some additions have been made to known Nazi reserves. New salt dome fields are reported on the flanks of Moelme and at Gifhorn and fields also at Goslar near Hanover and Heide in Holstein. Some wildcat activity prevails in many parts of Germany and production increased 40 percent over that of 1934, attributed largely to the Nazi Government's subsidy policy. The year lent new proof of the existence of important undiscovered German oil reserves. About 40 percent of the automotive fuel consumed in Germany in 1935 came from domestic sources, including a considerable proportion of benzol and hydrogenated products from coal and 10 percent of alcohol required by law.

Prospecting has likewise taken place in recent years in the Vienna basin of Austria and has obtained some production. In Roumania, where the Boscani field was discovered recently by means of geophysics, the country's total proved reserves of possibly 500,000,000 barrels were increased slightly; and, at the same time, better prices are announced. Wildcatting was recently commenced in Belgium in the expectation of finding production in Paleozoic strata; but oil is not known to have been found in similarly old rocks outside of North America and Soviet Russia and showings in China and England. A notable activity was the expansion of wildcatting to new areas and unfamiliar formations. In England a second earnest plan to find oil was laid out and will doubtless go forward when necessary geological and geophysical surveys are completed. The earlier effort was in 1920, when a 50-barrel well was obtained at less than 2000 feet but was subsequently abandoned.

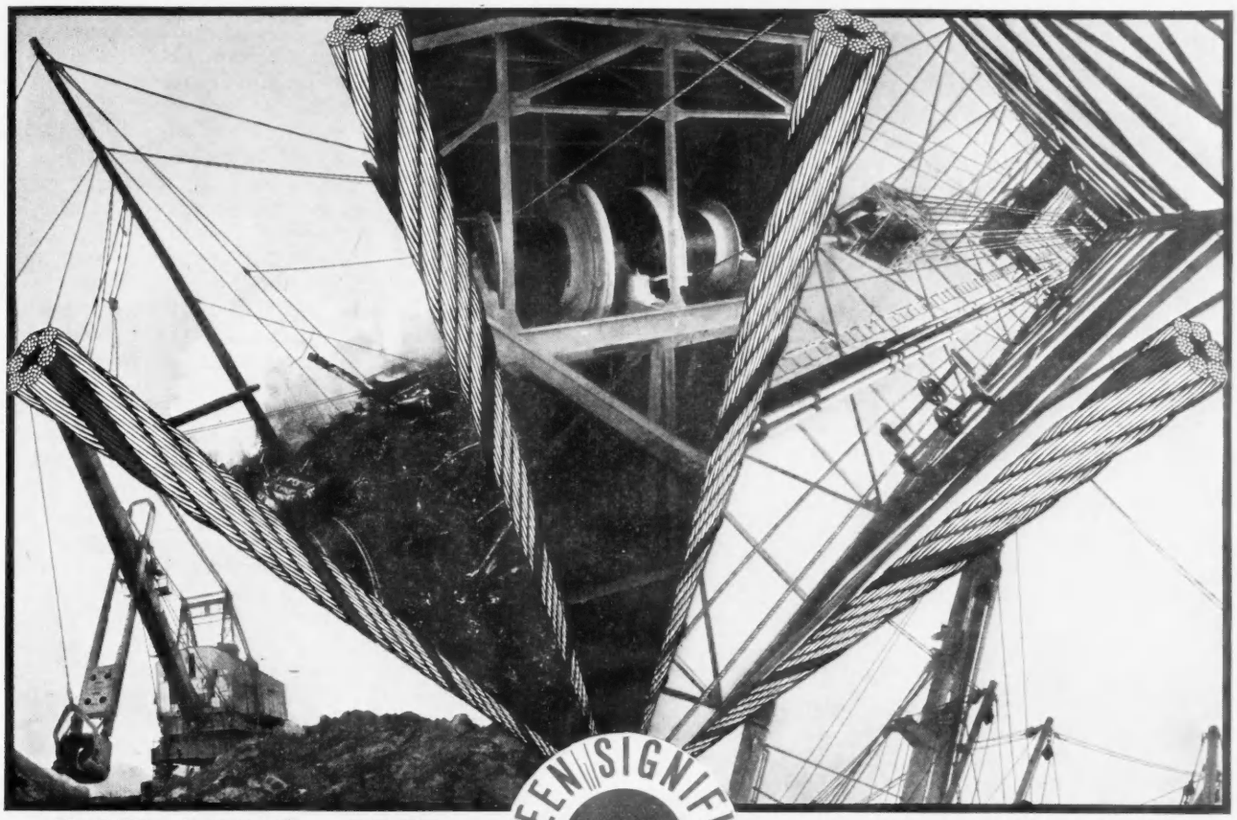
No Sensational 1935 Discoveries

No sensational discoveries are recorded as taking place in foreign oil fields during the past year. If petroleum often made daily headlines the news almost as frequently turned out to be reporters' nightmares or over-ambitious schemes of kings and dictators. The widely mooted Ethiopian oil fiasco, for instance, was based on queer views of international politics and was more of an individual than a corporate venture and not based on the proven existence of an area even regionally favorable for oil. It has yet to be demonstrated that Ethiopia holds more than a remote prospect of ever yielding petroleum.

Deep drilling was practiced in foreign fields in 1935 more intensively than ever before. The deepest test ever drilled in Ontario, for instance, is now nearing 6000 feet after being under way for two years. The disparity between such a figure—or even 7750 feet, the depth of a Turner Valley well that was the deepest ever drilled in Canada—and the 70 percent greater depths achieved in California and Texas, indicates something of what the foreign



One of the Kirkuk, Iraq, wells that gained a market outlet through the Iraq to Mediterranean Sea pipe line, which enabled Iraq to become the eighth largest producing country in the world.



AIDING INDUSTRIAL RECOVERY

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trend may be when once the need arises to drill to deep-lying strata.

Search is vain for any outstanding event of the year in South America. All producing districts are believed to have held their own or slightly increased the runs, but no new area of proven importance has been reported, although a field may exist by virtue of several test wells coupled with acquisitions of territory in central Anzoatiqui Province in eastern Venezuela. New inter-company agreements in that geologic province provide for drilling more wells.

Iraq Production Increases

In 1935 Iraq assumed eighth place among the world's producing nations, jumping from thirteenth place in 1934. Pessimists had assumed that this Near East production would constitute a disturbing factor in world oil economics. It must be remembered, however, that first, Iraq developments are in strong hands and constitute, next to Iran, the world's foremost unitization example; secondly, Iraq's production constitutes, like that of Iran, only a small part of the world's yield in any year. The decline in Soviet and Iranian exports helped to offset any unfavorable effect of Iraquian exportations on the market situation of the world.

Looking over 1935 developments one finds little except politics to cause an unfavorable view of the oil industry's future. Production of petroleum and related fuels outside the United States was about 630,000,000 barrels. Increases in production took place in the United States, Soviet Russia, Iraq, Venezuela, Columbia, Dutch East Indies, Argentina, Trinidad, India, Germany, British Borneo, Poland, Japan, Peru and Mexico; but other countries declined, so that the net increase is estimated as only 24,000,000 barrels outside of Iraq and the United States. Since the consumption estimate is about 610,000,000 barrels outside of the two countries, there was an actual over-production of only approximately 20,000,000 barrels—trivial in view of declining California reserves and the failure of the United States and foreign nations to discover great new fields in that year.

Undoubtedly one of the great engineering undertakings of recent years was the construction of the pipe-line from Kirkut in Iraq to Haifa in Palestine and Tripoli in Syria. This achievement proves the practicability of transporting petroleum for hundreds of miles across deserts and mountains—a feat that was at one time supposed to be impossible. If a fundamental achievement of 1934 was the completion of that pipe-line and the inauguration of its oil shipments, the year 1935 witnessed acceptance of this outflow of oil without disturbing the balance of supply and demand as many persons had predicted. The bulk of Iraq shipments went to France, where all four of the constituent companies have refineries, but roughly 10 percent of the oil was delivered to the United Kingdom and small amounts to Italy, Belgium and the Canary Islands. The temporary monthly declines of 1935 were apparently due to technical changes under way in the Iraq company's plants.

The construction of pipe-lines in 1935 was not great, although in Soviet Russia a new line having a reported capacity of only 3,500,000 barrels per year has just been completed between the Emba field and Orsk, where oil is to be refined, south of Magnitogorsk in the Urals. The Albanian pipe line, planned to bring oil from a certain field to the coast for Italian use, is likewise an unimportant matter from an economic standpoint; for, judging by geologic impressions, little oil is available in Albania and what exists is reported to be of low grade.

The year 1935 was noteworthy for refinery expansion abroad as well as the modernization of certain existing refineries. Expansion was especially great in the Soviet Union, where the majority of improvements were in respect to cracking, necessitated by a recent shifting demand from that of kerosene and fuel oil to gasoline. Actualy, a decrease took place in refinery runs in that country during the first half of the year owing to failure of the old Baku field to yield the scheduled quotas after expansion into certain shallow waters of the Caspian Sea supplemented by drilling to deeper sands. The second five-year plan contemplates additional refinery construction by 1937.

Increase in the number of uses of petroleum and its products became more intensive in 1935. A sign of the times was recognition of the importance of producing the best grade of Diesel fuel. In Roumania the greater part of 1935 refinery improvement was mere modernization; but in France new construction, inaugurated in earlier years, was continued by the opening of several refineries.

On the barren island of Bahrein in the Persian Gulf a 10,000-barrel per day refinery is being constructed and arrangements are reported perfected for marketing the product. Refinery operations of Iraq Petroleum Company in Iraq are limited to a stabilization unit under construction for processing the oil for transportation to Haifa and Tripoli, necessary on account of the peculiar characteristics of Iraq crude. Even in northwestern Iraq a refinery was under way during the year at Kermanshah, as provided by the 1933 convention between the Iranian Government and Anglo-Iranian Oil Company. This is a plant for rectifying oil brought from the Naft-i-Shah field on the Iraq frontier, supplementing the distillation and blending plant at that place. A three-inch line, 158 miles in length, was completed to Kermanshah in 1934 over mountains which are in places more than 5000 feet in altitude.

Exploration Must Continue

The lack of sensational oil developments in 1935 may be largely due to the habit, into which the world has become intrenched in recent years, of thinking in terms of "overproduction." In reality there is no overproduction when we consider the needs of coming years and the percentage of the reserves that would be required by any specific year. Just as the oil industry need not be frightened into thinking it has an actual oil shortage and that fields will give out entirely in a few years; so, at the other extreme, it must not be caught without an ample developed reserve to supply the needs of every passing year if complete prosperity should suddenly return. Automotive uses have been shown in a few countries to increase rapidly under certain conditions; a repetition of such developments is soon likely to take place in other parts of the world that have been generally considered backward. Consequently, alertness is essential in every activity that concerns an adequate oil supply abroad as well as in our own country.

Panorama of 1935

SUMMARY OF HIGHLIGHTS SHOWS MOST OF THE NEWS WAS GOOD

By GRADY TRIPLETT, Staff Writer

OUTSTANDING news of petroleum in 1935 did not make headlines.

Crude oil prices in the Mid-Continent area remained fixed for a year. That was unusual but not worthy of voice raising. The industry as a whole, if not for each individual unit, got back to profits. The headlines as to this were not printed in large type. Control through proration came to be something of a habit, which demanded fewer words than did the years previous when proration was notorious for its lack of effectiveness. The industry regained its consumption, lost during earlier years of the depression, and moved into new high ground on that score. The industry found as much oil as it used.

These are the factors that comprise the curve for the year, a curve that slants upward.

Events that made these factors were the reasons for headlines during the year. Court decisions, new laws, new oil fields, sales of properties, mechanical triumphs, price increases and price declines outside of the Mid-Continent, clashes between the industry and government, clashes within the industry as to methods of control and other events were the happenings that made the news of the year.

The year was three days old when the Cole committee made its report. The committee had been digging away for months and had made itself popular through its fairness and thoroughness. It pointed away

Headlines in the News of 1935

Supreme Court's Decision Stops Federal Control of Interstate Oil Shipments

B. F. LINZ
Staff Correspondent

WASHINGTON, D. C., Jan. 7.

HOLDING that Congress had transcended the reasonable limits to the delegation of authority in incorporating in the National Industrial Recovery Act Section 9(C), authorizing the President to prohibit the transportation in interstate and foreign commerce of oil and its products in excess of allocations, the United States Supreme Court on January 7 held invalid the Executive Orders of July 11 and 14, 1933, the former prohibiting such transportation and the latter turning over to Secretary of the Interior Harold L. Ickes the enforcement of the section.

The court's findings were announced on a decision in the two cases brought, respectively, by Panama Refining Company and Amazon Petroleum Corporation to prevent enforcement of orders issued upon the basis of the two Executive Orders.

Gasoline at Peak

ENCOURAGING SITUATION SHOWN IN A. P. I. STATISTICAL REVIEW

NUMEROUS interesting and encouraging factors are revealed in the special "Review of the Petroleum Industry" lately issued by the American Petroleum Institute.

Cole Committee Recommends New Head for Federal Agency

Compact Meeting

STATES CREATE COMMISSION TO PERFECT WORKABLE REGULATIONS

Yount-Lee Sale

ENDS COLORFUL CAREER FOR COASTAL PIONEER COMPANY

World's Deepest Test Being Completed at 12,786 Feet

Boost Allowable

BUREAU INCREASES NATION'S PRODUCTION 10,000 BARRELS

Hope in California

ATTEMPT BEING MADE TO GET AGREEMENT SIGNATURES

Shipment Control Bill Passed

Few Amendments Made; But New Federal Control Bill Attempt Appears Probable

WASHINGTON, D. C., February 22.

EXTENDING the life of the measure until June 16, 1937, so as to have it expire coincidentally with the new Industrial Recovery Act shortly to be enacted, the conferees on the contraband oil bill today reached an

Seek Oil Embargo

NEUTRALITY ACT AMENDMENT IS TO BE ASKED OF CONGRESS

WASHINGTON.

AMENDMENT of the neutrality act to embargo the export to warring countries of oil, cotton and other commodities which, while not contraband under the head of munitions, constitute materials vital to the waging of hostilities will be sought of Congress by the Administration early in the coming session.

Informal polls taken to determine the attitude of members of Congress indicate a great majority, heavily in favor of embargoing shipping the United States from foreign wars.

The strengthening of the neutrality act will be sought, it was indicated, regardless of what action the League of Nations might take with respect to oil, the embargoing of which, Moscow has warned, will be considered on act of war.

The request for arms and ammunition, was

ITALIAN SHIPMENTS

Seven cargoes from South Texas due to sail

CORPUS CHRISTI.

THREE tankers were in Corpus Christi port district late in the week loading cargoes of oil reported to be for the Italian Government. One ship has been

Industry Freed from NRA Control

Acts Are Unconstitutional Delegation of Legislative Power Rules High Court

WASHINGTON, D. C.

VALIDITY of the oil and all other codes of fair competition was denied by the United States Supreme Court May 27 in an opinion holding that the code-making authority conferred upon the President by the Industrial Recovery Act was an "unconstitutional delegation of legislative power."

Epoch-making opinions by the court as it met for the next to the last time before adjourning for the summer demolished two of the most important features of the Administration's recovery program, the Kitty-

Appeal Court Dismisses Famed Allred Anti-Trust Ouster Suit

Higher Oil Price

STANDARD GIVES CALIFORNIA OIL MARKET ANOTHER RAISE

LOS ANGELES.

STANDARD OIL COMPANY of California announced an advance in California crude oil prices effective December 6. The increase ranged from 1c to change for heavier gravities to 25 cents for the highest grade of oil.

This new schedule further restores prices that were in effect when a 50-cent reduction was made on August 29 by Standard Oil Company of California. The price to August prices were further restored on November 1 when Standard of California granted a new schedule increasing its prices from

Earnings Improve

1935 RECORD LIKELY TO BE BEST FOR PAST FIVE YEARS

By JACK LOGAN, Associate Editor

IT APPEARS quite probable that oil companies generally will show somewhat higher earnings for 1935 than for 1934. If such improvement materializes, it will mean that their profits will be the best for the past five years, or since 1930.

Successful Year

FAVORABLE RECORD FOR 1935 LOOMS AS LAST MONTH OPENS

By JACK LOGAN, Associate Editor

from federal control of production and in favor of state control, with a recognition of the public interest in natural resources. An interstate compact was favored.

Section 9-C of the National Industrial Recovery Act came before the Supreme Court in 1934. January 7, 1935, the court found it out of harmony with the constitution. It was the first blow at the New Deal, for the opinion was to the effect that Congress could not legally grant the privilege of making laws to another agency of government. The case was brought by East Texas refiners. The effect was to remove the federal tender board from East Texas and shipments of illegal oil could move across state lines.

By January 21, illegal production in East Texas had doubled. Both the increase and the amount produced were estimates. Estimates are all the clue the industry has to the amount of illegal production in East Texas.

On that same date Senator Tom Connally had drafted a bill to replace section 9-C.

January 29 the Oklahoma legislature approved the program of an Interstate Oil Compact Commission.

Early in February rumors were about that Stanolind Oil & Gas Company was dickering for Yount-Lee Oil Company. Rumors were denied.

At Dallas February 15, representatives of the oil producing states met and approved a program for forming the interstate compact.

The Connally bill became a law February 21. Immediately production of illegal oil in East Texas took a drop. Again only estimates could be used to measure the drop.

Trading in futures of crude oil and gasoline began on the Commodity Exchange in New York, March 5. This was roundly denounced and as roundly praised. During the year it was hardly noticed.

The first week in April brought an opinion from the Third Court of Civil Appeals to the effect that Texas anti-trust statutes were not constitutional. The case was that of the State of Texas against 17 major oil companies, seeking damages of $19,000,000. One part of this opinion was to the effect that NRA had killed the anti-trust laws of Texas.

By April 15 integrated oil company annual reports were out with the news that they had made a little money in 1934. Most of them expressed hope for greater profit in 1935.

As April ended the industry was in turmoil over the Thomas bill, a proposal of federal control. One view was that it would ruin the industry. The other was that the industry faced ruin without it.

It was May 25, 1935, when the record for deep drilling was set. The bit in 103 McElroy, Gulf Production Company, then rested 12,786 feet below the surface in Upton County, Texas. A dry hole, valuable for its contributions to knowledge of subsurface beds in West Texas as well as for verifying the contention that the industry can penetrate more than two miles when and if it is necessary to go that deep for further additions to reserves of crude oil.

NRA Held Invalid

Although the petroleum industry was not a party to the litigation, its biggest piece of news for the year came May 27, when the Supreme Court held the National Industrial Recovery Act unconstitutional. The decision in the Panama-Amazon cases had indicated such a decision. The decision gave the industry an acute case of jitters. Those opposed to the New Deal put tongues in cheeks and predicted bounding recovery for all industry. Those in favor of the New Deal placed jaws in palms, elbows on knees and predicted industrial disaster. Stock market prices quivered a bit, as did gasoline prices. Then the uphill climb of the industry was resumed.

June 17 producing properties of Simms Oil Company were sold to Tide Water Oil Company.

July 8 a federal court of three judges held the Texas proration laws constitutional.

July 15 the Planning and Coordination Committee voted to disband in Washington. It had served in the set-up for petroleum under NIRA. All that was left was office personnel enough to dispose of furniture, store records and disburse funds.

August 1 came announcement of the transaction by which properties of Yount-Lee Oil Company became those of Stanolind Oil & Gas Company, consideration $41,600,000, top cash deal in the history of oil production.

August 9, the President urged formation of an interstate oil compact.

Another tremlor ran through the industry August 29, when prices of California crudes were whittled down to 65 cents for a top, whereas $1.21 had been high. Normal breathing returned a few days later when other prices held.

Consumption at Peak

By September the statisticians had found out that the highest daily production since June 1933, had been reached, 2,803,600 barrels daily. Since the June, 1933, figure represented a period when all restraint was off and the East Texas field near the million mark daily, the September figure was accepted as a true peak.

The Interstate Oil Compact Commission was formed September 12, with Governor E. W. Marland of Oklahoma as chairman and Governor James V. Allred of Texas as vice chairman.

October 29 came another increase in the price of Pennsylvania oil.

The higher posting of 15 cents in the eastern area whetted the appetite of Mid-Continent producers. Predictions of a general increase came into the headlines. (None of this is supposed to get without the bounds of 1935, but it is impossible to resist reiterating that the Mid-Continent increase came January 8).

The readjustment in California November 1 restored from eight to 35 cents per barrel.

Annual meeting of the American Petroleum Institute, Los Angeles, November 11 to 14. It was noticeable that no one from the administration at Washington was on the program. Representatives from the Interstate Oil Compact Commission were present. Much talk about the accomplishments of the industry, its increased reserves underground, no need for worry as to future supplies, also technical sessions, a banquet and great doings of the extra-convention sort.

December 6 California prices again adjusted upward. By this time Mid-Continent producers were certain of their increase.

More than 100 new oil fields and extensions to old oil fields added at least a billion barrels of crude oil to known reserves of the United States during 1935. A list would be boresome. Here are a few from the leading producing states—Oxford, deeper sand, Kansas; Rodessa in Louisiana (part of it due to run into Texas); Fitts in Oklahoma; Anahuac for Texas and Monument for New Mexico, etc.

New Drilling Trends

CHANGES IN RIG HOOKUPS AND POWER EQUIPMENT FEATURE YEAR'S DEVELOPMENTS

By BRAD MILLS, Associate Editor

FEW radical changes in either drilling equipment or methods appeared during the past year, but several previous trends were continued in an evolutionary form. The fact that equipment and methods have been improved and refined to a point that permits easy attainment of required depths accounts for the limited number of extreme changes and additions that have appeared.

In the remote or isolated districts, internal combustion engines as prime movers continued to gain ground, and several new power arrangements were developed. The heavy Diesel engine has been popular in New Mexico and parts of the Mid-Continent for several years, and where fuel, water and transportation are a problem, they have proved a very satisfactory source of power. Refinement in both design and drive has added to the Diesel's popularity.

Direct Current Development

Application of the direct-current, variable-voltage system of speed control to rotary drilling, together with the evolution of a dual unit arrangement whereby service can be steadily maintained with but one unit in operation, has proved successful from the standpoints of economy, efficiency and portability. Wide range of power flexibility, a requirement in rotary drilling, is an inherent feature claimed for this type of drilling outfit.

In applying the method, it is necessary to provide at least one generator for each motor to be operated, as well as a small unit to excite the fields of all the motors and generators involved. Internal combustion engines are used to drive both the main generators and the exciters, so that each rig is complete within itself.

New Portable Outfit Appears

A portable alternating-current power plant with two engines, a generator and the necessary control apparatus, all mounted on a common base, was a combination that appeared last year. The complete generating plant weighs about 25,000 pounds and is so compact that it can be transported on an ordinary heavy-duty oil field truck. The outfit is suitable for drilling to about 5000 feet. The 219 K. V. A., 480-volt generator is driven by one or both of two 150-horsepower, six cylinder gas or gasoline engines.

Three Engine Diesel Hookup

A three-engine hook-up, with Diesels supplying the power, was installed during the past year in Oklahoma, and the innovation seems to hold considerable promise. The direct-current powered rig, the eighteenth to be placed in service, deviates somewhat from what has tended to become standard practice, with the addition of a third prime mover. The type of electrical equipment does not differ materially from that used on several other rigs in service. The power plant includes two main generators, one rated at 150 kilowatts and the other at 240. The draw works is driven by a 400-horsepower, 350-volt separately excited shunt motor. The two slush pumps are driven by two 225-horsepower, 350-volt motors. The three engines are of the full Diesel type, 200-horsepower, and normally operate at 514 revolutions per minute. The object of using three engines of 200- horsepower each, rather than two 300-horsepower engines, is to increase the flexibility of operation and thereby provide additional stand-by service.

A New Diesel Arrangement

A new type of Diesel-electric rotary rig was used in the Monument field, Lea County, New Mexico. The rig has several interesting operating features. The main power plant consists of two six cylinder engines connected through V-belts to 200-volt, direct-current generators. More than a dozen new operating and mechanical features have been built into this installation, which can deliver maximum torque to the driven member at standstill for an appreciable period without damage to any part of the equipment; can start loads from rest without the operation of clutches; permits speed adjustment over a wide range at any time without disconnecting the load for shifting gears; allows reversals without de-clutching, and permits all phases of operation without shocks or undesirable stresses. The Diesel engines may be operated at constant speed, while the speeds of mud pumps and rotary table or draw works are independently regulated to obtain the desired results.

Steam Is Still Popular

Steam rotary drilling outfits continued to hold their position in districts having a good supply of fuel and water, but no radical changes in design were noted. The 12 x 12 twin type steam engine remains a very popular number where average conditions are encountered, while the 14 x 14 twin type engine is being used on several of the most difficult jobs. The dependability and flexibility of steam are recognized, and a number of drilling contractors contend that this type of prime mover increases the drilling speeds in formations, permitting 700 to 1000 feet of hole daily.

Boiler pressures continue to range from 250 to 350 pounds, with the lowest pressure that will do the work regarded as the most economical. Boiler weights increased steadily for a number of years, but

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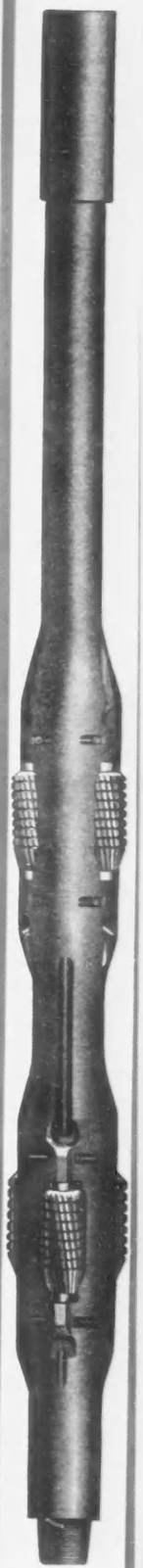

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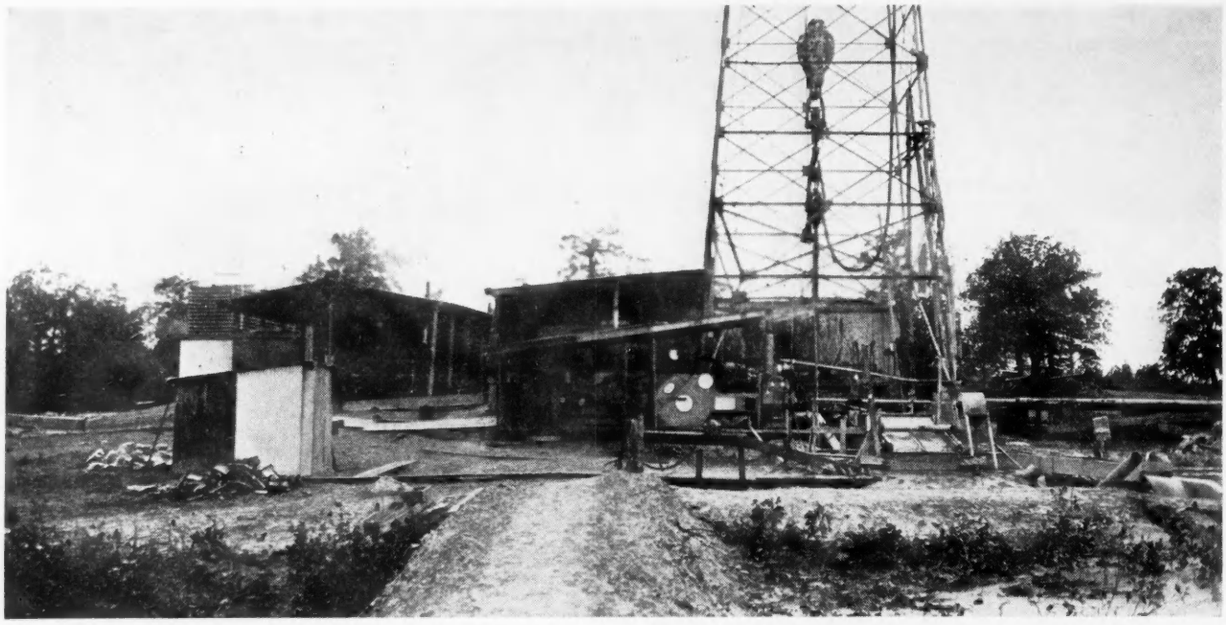

One of the many Diesel-electric rigs used in 1935. The power plant is in the left background.

manufacturers are now inclined to hold the weight to the lowest figure that will give full safety. Several oil companies have been influenced by the great weight of boilers in the selection of equipment for isolated districts, and it is believed that future boiler weights will be little greater than those of the present.

Use of superheaters has increased, and this practice seems well worth the extra expense incurred. Dry and very hot steam is a requirement where drilling conditions are very severe.

Derrick Heights Unchanged

The 122- and 136-foot derricks have proved the most popular types with all operators, and little of the former tendency to use 167- and 177-foot derricks remained. The 136-foot derrick is considered adequate for all conditions. Derricks of this height are now built to function with loads to 1,200,000 pounds.

The unit type draw works has become popular in every rotary drilling district and is standard equipment with many operators. Many of the older types are being unitized to increase their portability and efficiency. A number of manufacturers have increased the weight of their heavy duty draw works to meet the demand for more exacting requirements.

Direct Drive Rotary Tables

Direct-drive rotary tables have become popular in California. One of the most efficient of these installations uses a small vertical twin-cylinder steam engine that rests on the derrick floor opposite the draw works. The short drive is by shaft, reducing gear, clutch and increasing gear to the rotary table. During drilling operations the larger steam engine and draw works stand idle.

Crown blocks and traveling equipment were not radically changed during the year, but a number of refinements and safety features were added. The most popular drilling hooks are the 150- and 300-ton types, while the traveling blocks are rated up to 500 tons. Some of the new type crown blocks have a single deck.

Such items as rotary chains and drilling lines were unchanged in design, but were improved from a metallurgical standpoint. Chain manufacturers have been studying the wear of rotary chain subjected to hard usage, and have been able to improve its qualities through this observation.

The use of automatic catheads has increased, due to improved designs that are now available. Some of these types give increased power at reduced speeds without damage to equipment. One cathead recently introduced operates on a new principle, with a series of gears as the basis of operation.

New Pump Drives

The principle of slush pump design has not been changed, but a number of novel power applications have been introduced. The heavy 18-inch steam pump is as popular as ever along the Gulf Coast, in California and in other areas, but lighter pumps are being used where more moderate volumes will suffice. In several instances, a 7 x 7 vertical twin steam engine has been used to drive the pumps. Electric pumps are a requirement on most of the Diesel-powered rotary drilling outfits.

Electric drilling outfits have increased in popularity where power rates are nominal. In a few California fields, a gain in the number of electric rigs was recorded. Particularly at Elwood the use of purchased electricity has proved popular, due to a combination of favorable circumstances.

Portable Rigs Are Popular

Portable rigs of all kinds, Diesel, gasoline, steam and electric, are increasing in popularity in the shallow producing districts. Some of these outfits are suitable for drilling to a depth of more than 5000 feet.

Marked advancement in the design of drilling

GARDNER-DENVER

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- Famous Gardner-Denver divided fluid end construction—no internal walls or metal sections to be cut through by abrasive mud.
- Chrome nickel alloy fluid end tested to 3000 lbs. hydrostatic pressure.
- Automatic, positive flood lubrication to main working parts—reliable always—no oil pipes, no tricky adjustments. Grease packed main and jackshaft bearings.
- Gardner-Denver center-guided fluid valves—light, durable, easy to replace.

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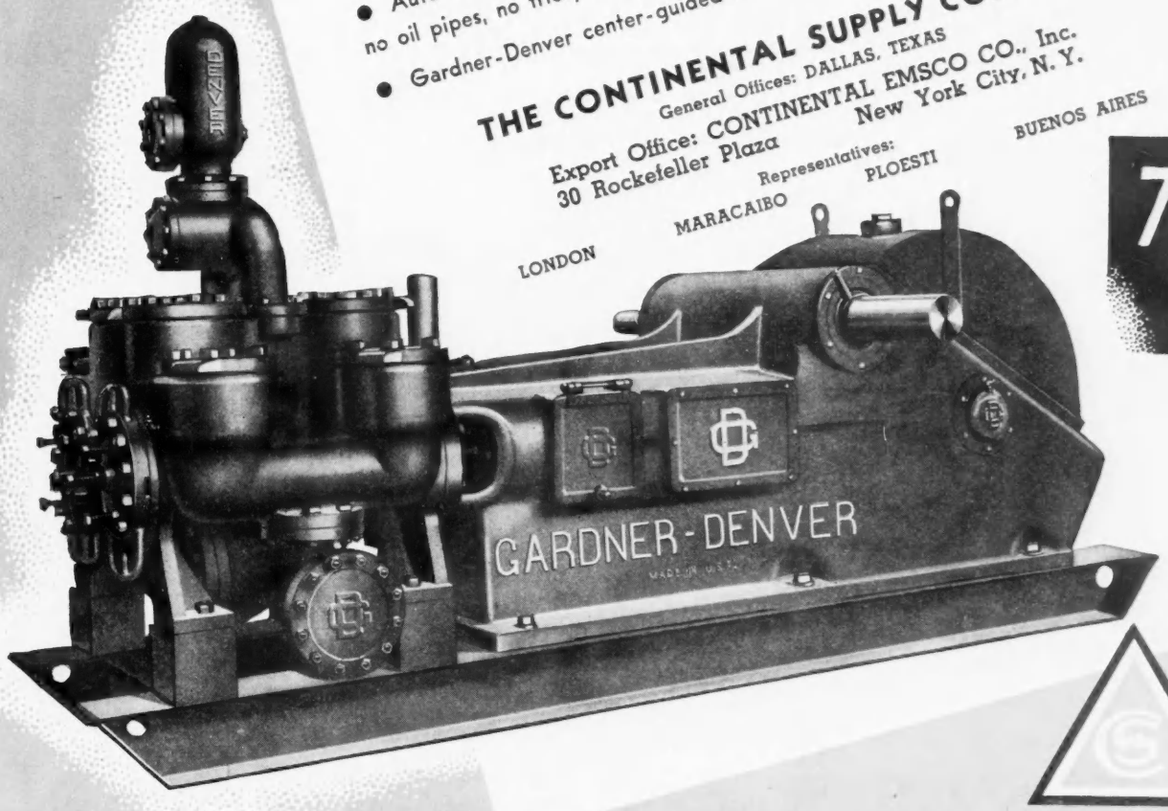

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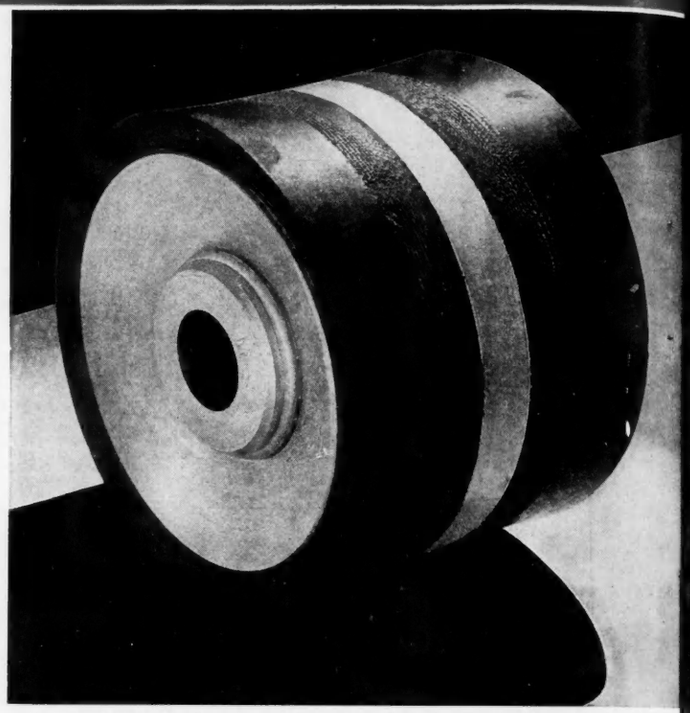
CONTINENTAL

WHY MISSION SLUSH PUMP PISTONS

Decidedly cut pump upkeep cost



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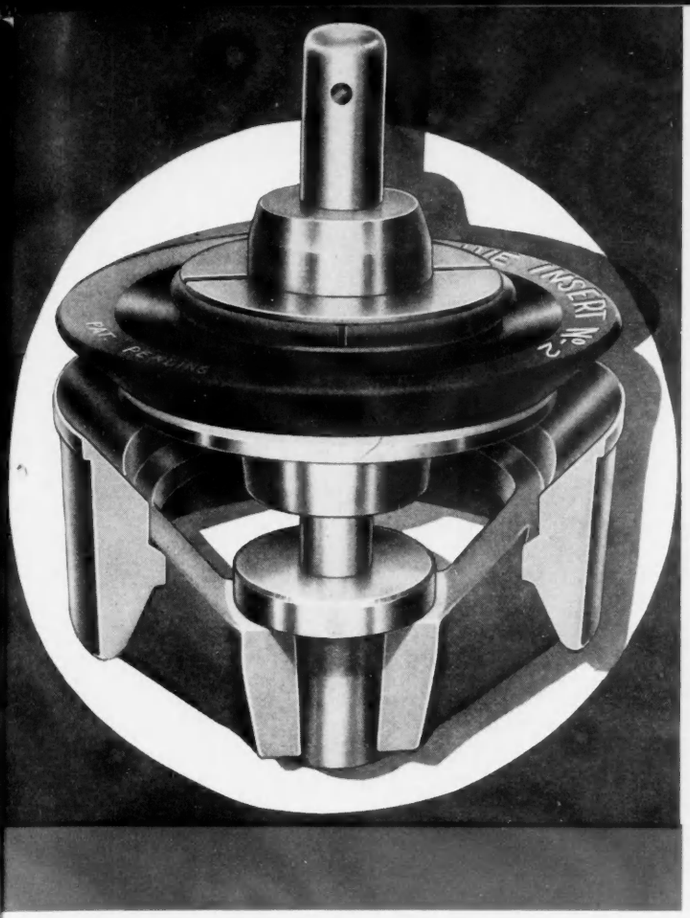

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   New removable bushing is tapered . . . a progressive Mission improvement that holds the bushing in a fixed position eliminating wear on two surfaces . . . bottom of bushing, and valve seat under the bushing.

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NOTE: No parts of Mission Silver Top Valves are interchangeable with parts of Regular Model Mission Valves, excepting Rubber Valve Inserts.

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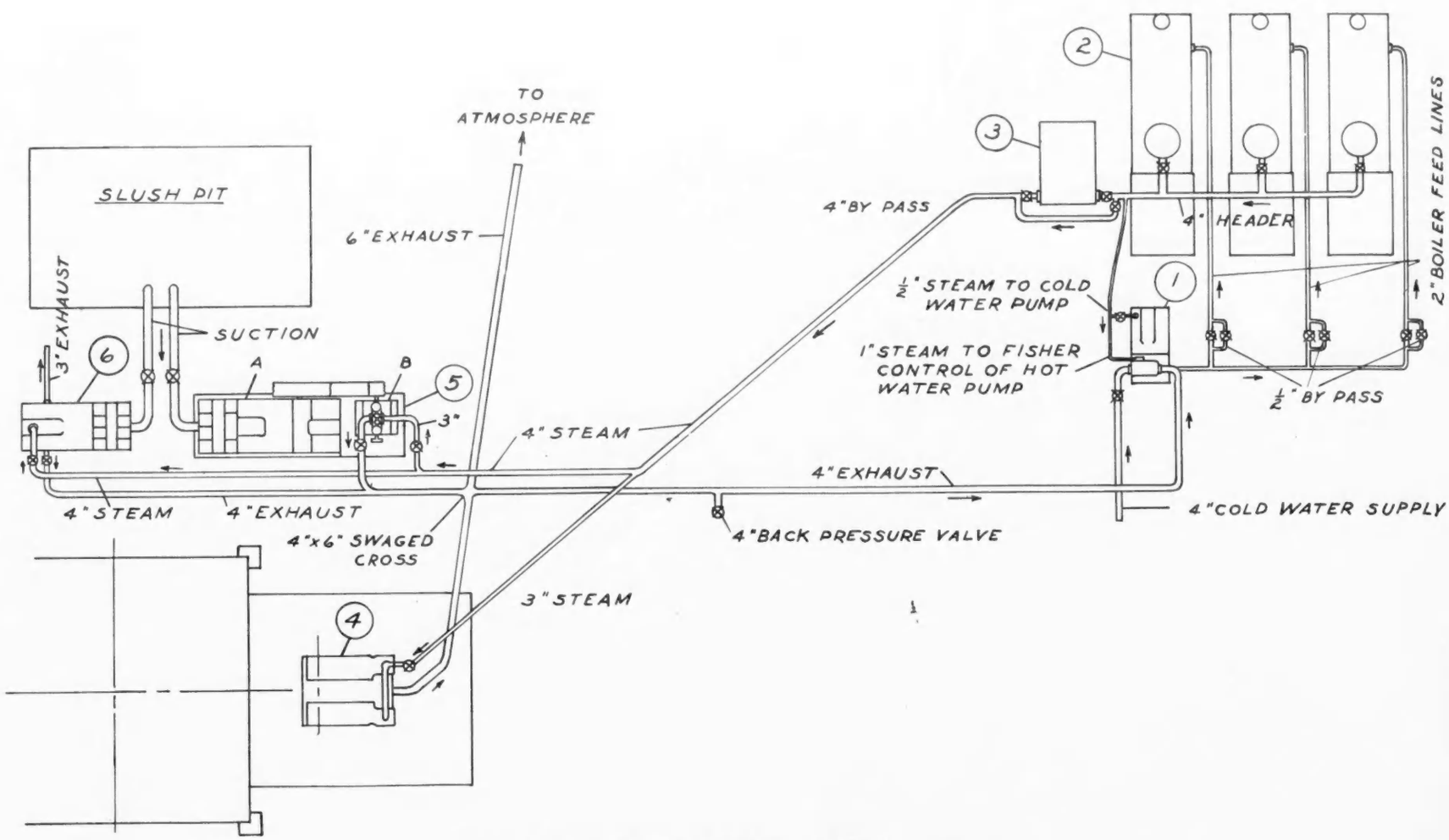


Layout for steam rig with Superheater and Feedwater Heater.

1. Feedwater heater pump.
2. Boilers.
3. Superheater.
4. Steam Engine.
5. Steam Engine Driven Slush Pump.
A. Power Slush Pump.
B. Vertical Steam Engine.
6. Steam Pump for standby.

A rig of this general type was described in THE OIL WEEKLY January 20, 1936, in article entitled "Steam Conservation Rig at Chandler, Oklahoma, Proves Possibility of Vast Steam Saving."

barges, a type of outfit extensively used along the Louisiana Gulf Coast, accompanied increased operations in the swampy areas. These barges now carry the heaviest rotary equipment and are even more complete than the average drilling outfit on land. The boiler barges carry four large boilers and three boiler feed pumps. The barges are all-steel.

A Kansas drilling contractor has been using a convertible rig that may be changed from a rotary to a cable tool drilling outfit in two hours. Two 100-horsepower gasoline engines are used, and the rotary method is principally employed.

A drilling outfit that operates on a new principle is being used along the Gulf Coast. It consists principally of a long rubber hose, a mud pump, large hose reel, small engine for operating the reel, a hydraulic engine for use in the hole and a drilling bit. The bit and hydraulic engine are placed on the end of the hose and mud is circulated through the hose. The flow of the mud through the hose and hydraulic engine gives the bit an oscillating action that makes hole. The mud returns on the outisde of the rubber hose. A wire line is run as part of the hose and carries most of the weight. Hose and additional sections of the wire line support are fed into the hole as drilling continues.

Study Steam Conservation

Considerable progress was made in several phases of drilling operations during the past year. Operating economies were effected in all districts, and most of the producing companies were more intent on making the most of present equipment than in developing radically new methods.

Heat conservation on steam drilling rigs claimed the attention of a number of companies that were not satisfied with the energy obtained from steam produced. Until recently no sincere attempts to conserve heat either at the boiler plant or in connection with the prime movers using the steam have been made. The major points that afford opportunity for appreciable heat conservation on the rotary drilling rig are feedwater heating, boiler efficiency, superheating, slush pump prime mover, rotary prime mover, and boiler and steam line insulation.

One manufacturer has placed on the market a combined feed pump and heater unit that utilizes the same principle as the jet condenser for heating the feedwater. This is known as the open type heater, and in it the cold feedwater as it is sprayed through a spring-loaded valve comes into direct mixing contact with exhaust steam at a pressure of approximately 10 pounds per square inch. The water is heated to a temperature of about 210 degrees, Fahrenheit.

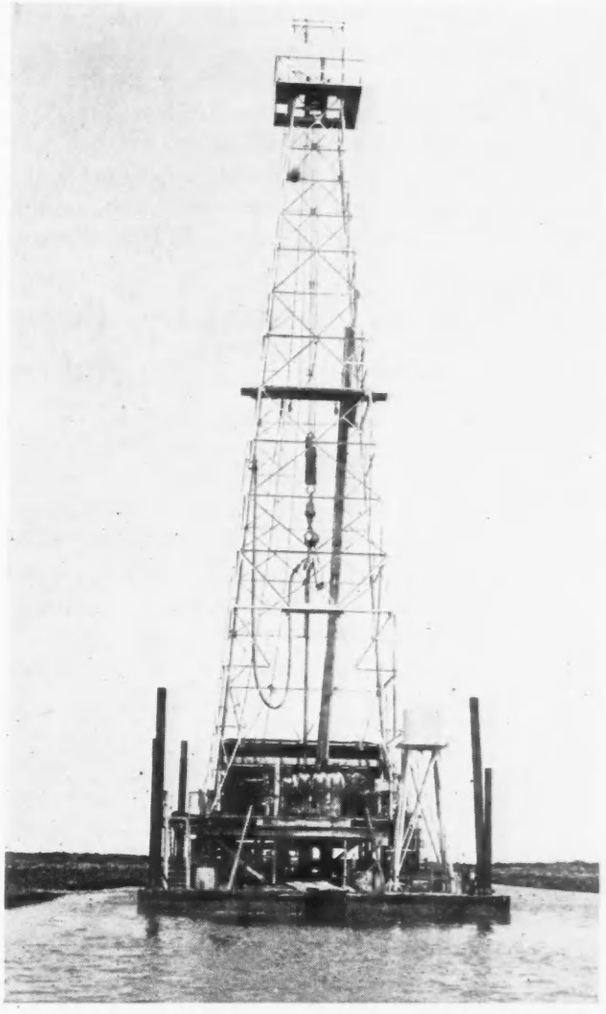
Boiler efficiency has been increased by installation, smaller tubes and use of superheaters. Superheating steam increases its volume by a percentage great enough to warrant the extra expense and trouble that are involved. Heat conservation in connection with the operation of slush pumps and rotary prime movers has been a difficult problem. Various indirect drives for pumps, and use of a smaller and separate engine for driving the rotary table and pumps are efforts along this line. A multi-stage, high speed steam turbine that drives through reduction gears has been used with some degree of satisfaction, but the difficulty in maintaining constant torque at all speeds has been pronounced.

Pressure drilling in the Mid-Continent, West Texas and New Mexico districts has increased, and particularly has drilling in wells under pressure become popular. With this method it is common practice to drill in the usual manner to the top of the producing formation, and then to substitute pressure equipment and oil as a drilling fluid while passing through the oil sand or zone.

Directional Drilling

Directional drilling has become so well established that its use is common in all producing districts. New adaptations were developed during the past year, however, and many leases were completely developed under adverse circumstances. The practice is being employed in California for developing ocean leases that lie under 40 and 50 feet of water. The method has so many uses and possibilities that producing companies find it a valuable aid in drilling leases that might not be developed at a profit by vertical drilling.

Several changes and improvements in casing practices were observed in many fields. In the East Texas field, a major producing company has been welding in its oil strings, a practice that seems to



Drilling barges were popular in the swampy areas of Southern Louisiana.

The

1935 ROLL CALL

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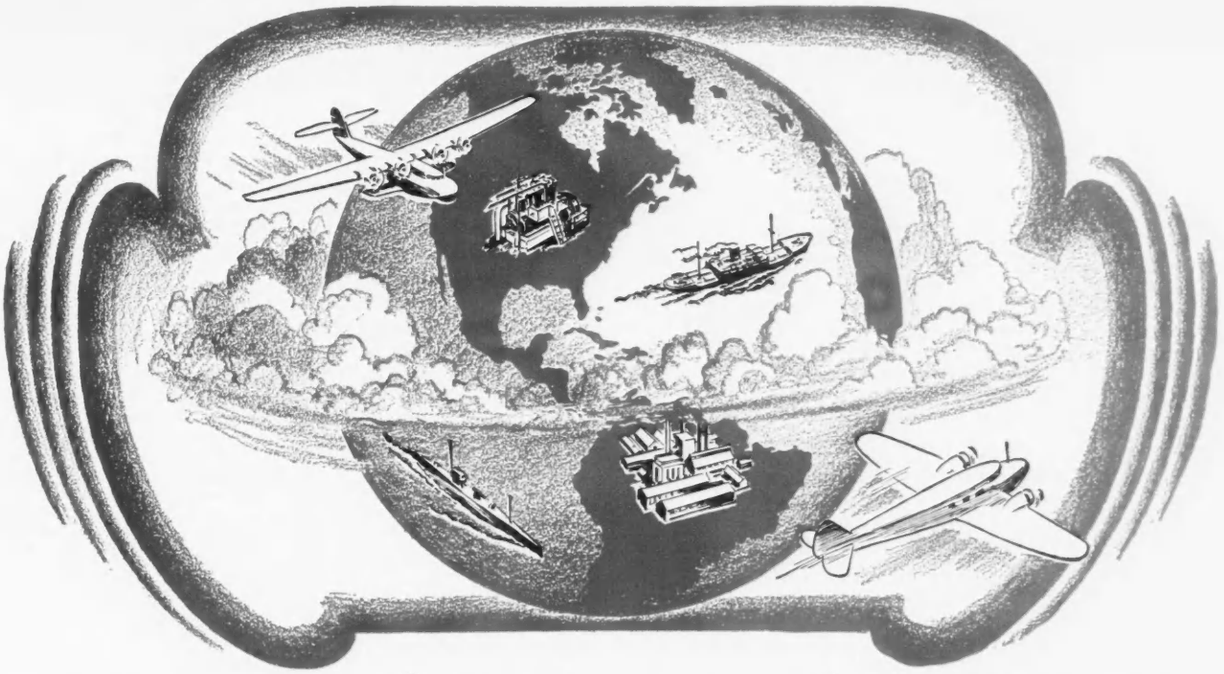


AJAX IRON WORKS *Steam Engines*
AMERICAN CHAIN COMPANY *Air Compressors*
AMERICAN ENGINEERING COMPANY *Air Compressors*
ATLAS IMPERIAL DIESEL ENGINE CO. *Diesel Engines*
BALDWIN SOUTHWARK CORPORATION *Diesel Engines, Compressors, Refrigerating Machinery, Hydraulics*
BETHLEHEM STEEL COMPANY *Gas Engines*
BOVAIRD & SEYFANG MFG. COMPANY *Gas Engines*
BRUCE MacBETH ENGINE COMPANY *Gas Engines, Diesel Engines*
BRUNNER MANUFACTURING COMPANY *Air Compressors, Refrigerating Machinery*
CARRIER ENGINEERING COMPANY *Refrigerating Machinery*
CATERPILLAR TRACTOR COMPANY *Diesel Engines*
CHICAGO PNEUMATIC TOOL COMPANY *Diesel Engines, Compressors*
CLARK BROTHERS COMPANY *Gas Engines, Diesel Engines, Compressors*
CONTINENTAL AIRCRAFT COMPANY *Aircraft Engines*
COOPER-BESSEMER CORPORATION *Diesel Engines, Gas Engines, Compressors*
CRANE COMPANY *Valves*
CURTIS MANUFACTURING COMPANY *Air Compressors*
M. T. DAVIDSON COMPANY *Pumps*
DOMESTIC ENGINE & PUMP COMPANY *Steam Engines, Pumps*
ELECTRIC BOAT COMPANY *Diesel Engines*
FAIRBANKS, MORSE & COMPANY *Submarine Diesel Engines*
FOSTER PUMP WORKS *Pumps*
FOSTER ENGINEERING CO. *Valves*
FRANKLIN VALVELESS ENGINE CO. *Gas Engines, Diesel Engines*
FRICK COMPANY *Refrigerating Machinery*
GARDNER DENVER COMPANY *Air Compressors*
GENERAL ELECTRIC COMPANY *Air Compressors*
HALLETT MANUFACTURING COMPANY *Compressors*
HEISLER LOCOMOTIVE WORKS *Steam Locomotives*
HITCHCOCK GAS ENGINE COMPANY *Gas Engines*
HOOVEN OWENS RENTSCHLER CO. *Diesel Engines*
HYDRAULIC PRESS MFG. COMPANY *Hydraulic Presses*
INDUSTRIAL BROWNHOIST CORP. *Hoists*
INGERSOLL-RAND COMPANY *Diesel Engines, Air Compressors, Pumps*
KELVINATOR CORPORATION *Refrigerating Machinery*
KINNER AIRPLANE & MOTOR COMPANY *Aircraft Engines*
KOHLER COMPANY *Farm Lighting Machinery*
LATHROP ENGINE COMPANY *Gasoline Engines*
LESLIE COMPANY *Valves*
LIDGERWOOD MFG. COMPANY *Hoists*
McINTOSH & SEYMOUR CORPORATION *Diesel Engines*
MARION STEAM SHOVEL COMPANY *Excavators*
MAYTAG COMPANY *Gasoline Motors*
MESTA MACHINE CO. *Special Machinery*
MIEHLE PTG. PRESS & MFG. COMPANY *Printing Presses*
NATIONAL-SUPERIOR COMPANY *Steam Engines*
NORWALK COMPANY *Air Compressors*
PENNA. PUMP & COMPRESSOR CO. *Air Compressors*
PRATT & WHITNEY AIRCRAFT *Aircraft Engines*
RATHBUN JONES ENGINEERING CO. *Diesel Engines*
JOSEPH REID GAS ENGINE COMPANY *Gas Engines, Diesel Engines*
ROBINS CONVEYING BELT COMPANY *Conveyors*
SCHUTTE & KOERTING COMPANY *Valves*
SEAGRAVE CORPORATION *Gasoline Engines*
SHAFER BEARING CORPORATION *Bearing Seals*
S. MORGAN SMITH COMPANY *Hydraulic Machinery*
STANDARD MOTOR CONSTRUCTION CO. *Diesel Engines*
STANDARD STOKER COMPANY *Stokers*
STERLING ENGINE COMPANY *Diesel & Gasoline Engines*
STRUTHER WELLS-TITUSVILLE CORP. *Gas Engines*
SUN SHIPBUILDING & DRY DOCK CO. *Diesel Engines*
TABOR MANUFACTURING COMPANY *Molding Machines*
TROY ENGINE & MACHINE COMPANY *Steam Engines*
UNION SWITCH & SIGNAL COMPANY *Automatic Train Control*
UNITED ENGINEERING & FOUNDRY CO. *Hydraulic and Special Machinery*
UNIVERSAL COOLER CORPORATION *Refrigerating Machinery*
VENN-SEVERIN MACHINE COMPANY *Diesel Engines*
WESTINGHOUSE ELECTRIC & MFG. CO. *Diesel Engines, Compressors*
WILSON-SNYDER MANUFACTURING CO. *Steam Engines, Pumps*
WOLVERINE MOTOR WORKS *Diesel Engines*
WORTHINGTON PUMP & MACH. CORP. *Diesel Engines, Steam Engines, Pumps, Compressors*
WRIGHT AERONAUTICAL CORP. *Aircraft Engines*
YORK ICE MACHINERY CORPORATION *Refrigerating Machinery*

PISTON RINGS

have distinct possibilities. The casing, which represents seven-inch pipe that was salvaged from a pipe line, is cut or welded into 40- or 50-foot joints at the warehouse, and welded in at the well. One company has run about 150 strings of casing in this way. The pipe is inspected and tested at a pressure of 900 pounds before being run.

Rotary speed and weight on bits were considered more last year than during any previous period. A number of operators studied the effect of various weights and speeds, and found that their former conception of the problem was wrong. The belief that rapid rotation and a light weight in the very hard formations should be used was dissipated in the chert beds of West Texas, where the best drilling time was made with a slow rotation and light weight. Rapid rotation and from two to three points of weight were found to be the best combination in the soft formations along the Gulf Coast.

Coring in wildcats and in wells nearing the producing formation in proven fields has become standard practice in all producing districts. Contracts are being let in a few districts calling for 100 percent coring below a certain depth. Wire line core barrels are being extensively used where time consumed in running in and out would be high. Attempts to obtain side-hole cores have been partially successful, and under unusual conditions the practice looks promising.

A study is being made by one large Gulf Coast company to determine the number of lines to use under different conditions. This company obtained a large number of ton-miles from a drilling line when an eight-line combination was used, but more recently found that use of the six lines would have increased operations by a margin that would have given as economical results as the eight-line arrangement. It resolved itself into a question of choice. With the eight-line arrangement, the line lasted longer and gave better service; while with the six-line combination the line gave less service but did the job quicker. It was also determined during the experiments that cutting off a short section of the line from time to time increased its life. This practice prevented the line from spooling in the same position each time.

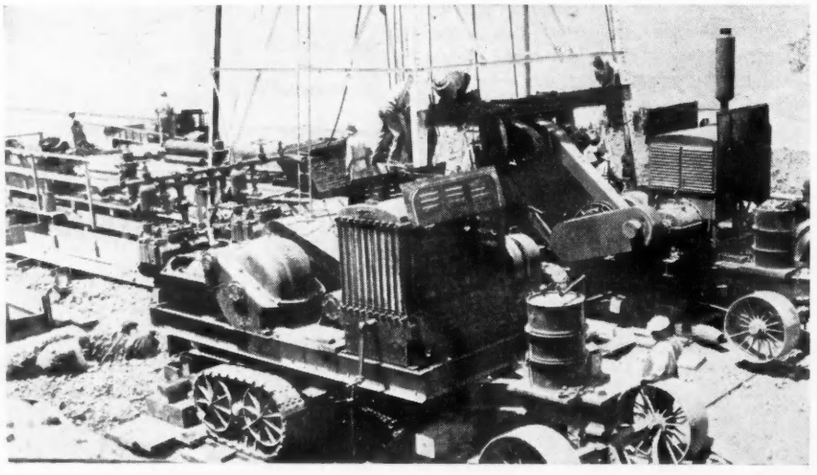
Use of special cements and an improved cementing technique featured this phase of completions operations. Fiber cements and special setting cements were tried with varying success, but the standard types were in the usual demand. Methods for more accurately determining the amount of cement required were tried in experiments, and some success was reported with a method that employed the displacement principle.

Drilling mud continued to claim the attention of operators who had particular formation problems. Opinions differed sharply as to the relative importance of viscosity, weight and chemical treatment, but unbiased engineers recognized the value of all factors. In a number of troublesome formations, particularly those having a tendency to cave or showing a cavernous condition, special treatment of mud has proved effective. Both the addition of chemical and bulky and fibrous matter was recognized as good practice under severe conditions. Use of weight material helped to bring a number of high-pressure wells under control.

The usual trouble was encountered in heaving shale along the Gulf Coast, but some progress was made in attaining new depths in these formations. One company used a special two-way joint that permitted continuous circulation while adding drill pipe, and was able to penetrate a thick section of the shale in this manner. Chemical muds were used to advantage in most of the wells troubled with heaving shale. Use of sodium silicate (water glass) in two or three wells was one of the most important chemical experiments of the year.

Few mechanical changes in completion methods were made, but most of the large producing companies continued to develop methods that would prevent contamination of producing formations. In low pressure sands, many wells have been ruined by high mud heads imposed during drilling operations. Use of oil for drilling in has been found effective, while reaming the hole below, the last casing shutoff seemed to remove the mud from the walls of the producing zone.

In drilling to a new record depth last year, a number of important points were established. This well, which was drilled through very hard formations to 12,786 feet, demonstrated the dependability of present methods and equipment and indicated that much greater depths are possible. In this test, progress was made many times at excessive depths in very hard formations, following a previous failure that had failed to make hole. Application of the correct method or a change in equipment prevented abandonment at a depth far above the ultimate depth. This well provided an excellent chance to study the performance of all types of equipment.



Portability of equipment was given much thought in 1935. The shallow rig equipment at left is all mounted

1935 Producing Trends

MANY ADVANCEMENTS MADE ALTHOUGH ENTIRELY NEW PRACTICES NOT ABUNDANT

By WARREN L. BAKER, Editor

OUTSTANDING entirely new trends in production practices during 1935 were not numerous. Production engineering studies were confined mostly to economy of operation, gas conservation, allocation of production, and rehabilitation work. Advancements which were more general, were made by improved methods, advanced equipment, and by adoption of proved practices in areas heretofore not using them.

Any discussion of producing trends may be divided into three main divisions, namely: operation of stripper well properties, flush producing methods and semi-flush well practices. Each of these classifications includes a large number of methods. Most important of the three classes probably is stripper well operating trends, because of the wider usage of several practices.

Stripper Well Trends

Operation of stripper well properties was probably more important than usual. In addition to the usual effort to obtain the utmost in economical operation there were several noteworthy happenings.

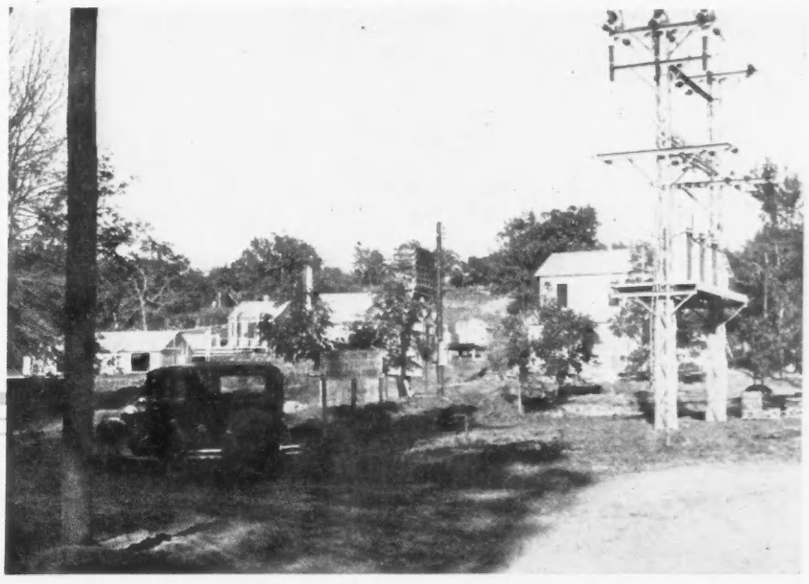
Of importance was the adoption of water flooding methods in the Mid-Continent area. Heretofore, with the exception of an experimental project or two in Oklahoma, all water flooding work has been confined to eastern fields, particularly Pennsylvania. A number of water floods were started on properties located in the stripper well area of northeastern Oklahoma and southeastern Kansas during 1935, and late in the year The Texas Company obtained a permit to water process some of its leases in Brown County, North, Texas.

It is yet too early to know the results to be forthcoming from water flooding in the Mid-Continent. However, several properties are responding remarkably well. Moreover, areas in which it is being applied are fairly similar to those districts in Pennsylvania where it has been used successfully for many years. The outcome of these projects will be watched with great interest, and it is probable that many additional properties in the Mid-Continent will be subjected to the water flood process in the near future.

Practices being used in the Mid-Continent are patterned closely after the fundamental basis used in eastern fields. The five-spot method of locating input and producing wells is being put into effect. Experience has shown that it is a mistake to use old wells, due largely to their poor physical and mechanical condition. Furthermore, the logs of these wells, many of which are 30 years old, are not accurate and trouble has been found from by-passing, channelling, and consequent waste of water, time, and effort. Since the Mid-Continent areas being water flooded are quite shallow in depth, new wells can be drilled and equipped for but little more than complete reconditioning costs. Early records indicate that water flooding in the Mid-Continent will cost approximately $1000 per acre.

Repressuring of sands in semi-depleted areas continue to be used widely, and in some districts there was a considerable increase in this type of work. However, practices being used are not different from previous ones. Of interest was the installation of several repressuring project plants that used one engine for compressing the gas and for generating electrical current for pumping the wells, whereas the practice heretofore has been to use separate prime movers for compressing and pumping.

Among pumping practices that received wider usage



General view of a water flood plant constructed during the year in northeast Oklahoma.

was that of slow-speed pumping, particularly on small producing wells. In California, where some exhaustive studies of slow-speed operations have been made, many small wells were made profitable through employment of slow-speed methods. This practice was inaugurated several years ago in many states, but it was used more widely during 1935 and several improved practices have been developed.

To obtain the ultimate in benefits from slow-speed pumping it is necessary to determine the most effective pump speed, which may vary widely in different sectors of the country. Pumping speeds being used ordinarily range from three to seven strokes per minute, but a few wells have been operated as low as three-fourths of one stroke per minute. Each well, in practically all instances, is equipped to operate as a separate unit, so as to procure the best power combination, greatest flexibility and consequently better efficiency. The critical pumping speed is one that will give a satisfactory production without seriously lowering the fluid level. Many wells placed on slow-speed pumping have shown an increase in the volume of oil recovered daily, and in practically all cases production costs have been reduced materially. Some cases show power costs have been cut 50 percent and labor more than 60 percent, although the average probably would be higher. A reduction in maintenance costs of equipment is a big item. There are a number of different type slow-speed units being used, and many have been improved recently. All employ small capacity prime movers, for example electric motors range in size from one horsepower to 7½ horsepower, with the majority being of one, two and three horsepower size.

Reconditioning work was abundant, and consisted mostly of cleaning out, repairing equipment, shutting off water and the use of acid. The latter was used in many stripper well districts with good results. In general the reworking of small wells was found profitable, and is apt to become more so since higher crude oil prices have been posted in the producing areas east of the Rocky Mountains.

Another interesting producing method applied to stripper areas during 1935 was that of mining for oil. This method was in vogue near Nacogdoches, Texas, and were interesting experiments that may provide a successful means of recovering oil that cannot be produced profitably by ordinary methods. One of these shafts was completed at 115 feet, while others were being carried to a deeper zone. Regulation mining methods were used. Some of the shafts have produced 15 or more barrels of oil per day.

Trends in Flush Fields

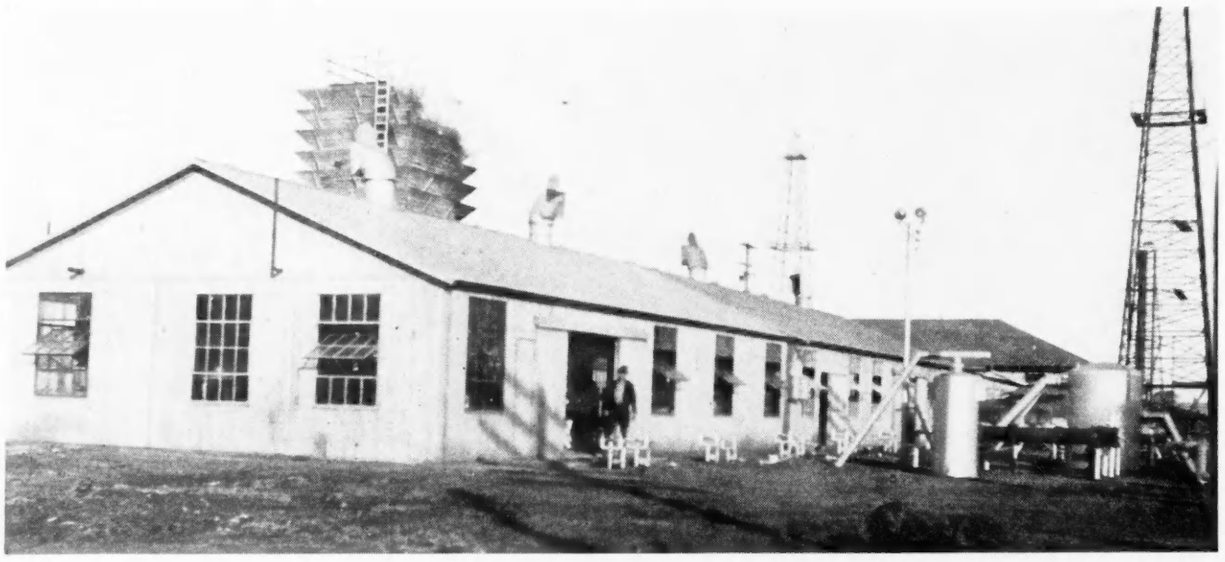
The trend in flush producing fields may be summed easily, consisting mostly of studies to determine the best means of getting the utmost energy from the gas present in the horizon. Due to proration being applied to practically all fields classified as flush, it was natural that the wells be choked. This, as would be expected, is expected to prolong the natural flowing life of the wells.

Practically all large flush flowing fields were subjected to careful bottom-hole pressure surveys. The information developed by this practice was used to good advantage. It enabled engineers to determine if the field was being produced at the most efficient production rate, and formed the basis for the selection of artificial lifting equipment.

In studying gas conservation, fields that had not been prorated were compared with those in which production had been curtailed, and without an exception findings showed that prorated fields will have a greater ultimate recovery and that the flowing life of the wells will average many additional years. An outstanding example is the Yates, Texas, field. Although eight years old many wells in this field are still capable of producing 80 percent of their initial production, and it is estimated that the field will be flowing more than 10 years hence. This field is an ideal example of a conservative producing program. However, Yates ownership permits better control than in many other areas, East Texas for example. At Yates only a few operators own acreage and most of the tracts are of large size.

Demonstration that conservation practices will greatly aid the flowing life and yield of fields led to considerable research as to ways and means of most equitably applying such methods in many fields. Some of the objectives of a conservative development plan are: equalization of reservoir pressure; conservation of gas; prevention and elimination of water encroachment; a low gas-oil ratio; a low reservoir pressure

[One of the numerous gas-lift plants built at Oklahoma City.]



drop per million barrels of oil produced; and creation of field conditions that will permit each operator to recover his full share of oil in place. Accomplishment of all these ideal conditions would be the ultimate in efficient producing practices, but unfortunately it is not often that a group of operators can work out satisfactory plans.

In the Burbank field of Osage County, Oklahoma, it is hoped that many of these desirable conditions can be created. A large part of the field was unitized last year, and immediately was subjected to a gas drive and storage project. As yet full results are impossible to determine, however, they are practically certain to be beneficial. The gas is being injected into the producing horizon in varying volumes, depending upon the location of the input well on the structure and on the amount of oil produced from that part of the field.

There was a widespread use of tubing in flush prorated fields. The hanging of a string of tubing in the well was shown in many, many instances to lower the gas-oil ratio materially. Of course, chokes were employed widely and effectively in prorated areas.

Acid treatment received considerable attention in flush fields during the year, notably in Lea County, New Mexico, where injection of the chemical in newly drilled wells greatly enlarged initial production. Some unusually large doses of acid were used in the Lea County area, some of which amounted to several thousand gallons for one treatment.

Semi-Flush Field Practices

Several flush fields declined during the year and had either entered the semi-flush stage or were approaching that period of their history. As a result more attention was given to the installation of secondary recovery methods. Foremost among the producing fields entering the artificial lifting stage were Oklahoma City and parts of the East Texas field.

Oklahoma City presented problems of special interest because of its great depth and large volume of oil yet to be recovered. A number of interesting trends were noticed in this field. In addition to standard gas-lift and pumping practices, several innovations were inaugurated.

A large number of gas-lift plants were constructed at Oklahoma City. Some of these were of the large type, but the majority can be classified as of small size. It was demonstrated that the 6500-foot wells in the Oklahoma City field could be gas-lifted profitably and some large recoveries were made.

Among the lifting innovations installed at Oklahoma City two probably stand out. One of these was the use of a stage-lift principle, and the other was a combination gas-lift and pumping practice.

The first stage-lift installations were made in 1934, but they received greater usage during 1935. The apparatus has for its purpose the extension of the artificial flowing life of a well into the period when pressures required to lift the oil equal or exceed formation pressures. The oil is accumulated in a chamber at the lower end of the device, then kicked to the surface by the gas. The initial lift usually represents about 600 feet, so the amount of pressure applied on the formation is only that part necessary to lift the oil this distance. The use of gas-lift with the stage-lift device proved advantageous in a number of cases.

The use of the combination gas-lift and pumping practice at Oklahoma City proved specially advantageous during potential gauging periods. This method consists of using a large capacity bottom-hole electrically-driven centrifugal pump for lifting the oil to a height of approximately 1000 feet and then depending on gas-lift for carrying the fluid the remaining approximately 5000 feet. The pump is set in the bottom of a string of tubing, usually of two-inch diameter, that has been perforated or slotted at the proper height (usually 1000 feet off bottom). The tubing is packed off beneath the perforations. Wells that ordinarily would not produce in excess of 500 to 750 barrels daily have shown potentials as high as 5000 and 6000 barrels per day.

Regulation standard beam pumping units were also installed on the Oklahoma City deep wells and proved quite satisfactory. In fact, this type of pumping was considerably easier than the majority of operators had anticipated. Polish rod loads in the field varied from 15,700 to 24,000 pounds, the average for a group of 23 wells being 18,982 pounds. The length of stroke used on the Oklahoma City wells varied from 42 to 72 inches, but several outfits using as long as an 11-foot stroke are in use.

In wide use in many fields were kick-off valves and similar devices to assist in artificially flowing wells.

In the East Texas field both gas-lift and pumping units were installed. However, most of these were standard units and offered little in the way of new practices. Trends in equipment for standard pumping operations were shown in field, although all types are being purchased. Most of the central powers installed were of the gear type and most of the beam equipped wells were using gear reduction units between the prime movers and the pitman.

There has been considerable improvement in the type of pumping equipment being installed as compared with that in universal use several years ago. Concrete foundations are more widely used, and in some cases unusual care has been applied in doing this work. Likewise, more of the equipment is of an all-steel, roller bearing design than in former years.

The back-side crank method of pumping became more prevalent in a number of districts. The method is an arrangement for operating one or more wells from a back crank on an ordinary standard rig or from one of the different types of geared, V-belt or chain driven pumping units now being marketed. The application is not a new one, but heretofore has been confined mostly to makeshift installations. During the past two years, however, many devices for accomplishing the purpose of back-side crank pumping have been perfected and new ones have been designed. The principle of the power take-off devices differ in mechanical construction, but practically all use a single push and pull connecting rod, or two pull rods in operating more than one rod line from the crank.

Considerable credit for better regulation pumping results must be divided between the better equipment being installed and to studies of conditions found in each well. It was more forcefully realized during the year that the weighing of wells and the study of other factors influencing the life and service of pumping equipment permitted the selection of the proper capacity and strength machinery and that as a result pumping operations were far more satisfactory. In this connection some of the manufacturers put shock absorbing units on the polish rod of pumping units, so as to eliminate some of the shock coming at the top and bottom of each stroke.

FOR SAFETY AND FOR *Successful Results* THESE PRACTICAL AND

For more than 28 years Baker has specialized on equipment for landing strings of casing, and the improved types presented for 1936 possess full measure of value inside and outside, for guiding, floating and successful cementing of casing in wells of ANY depth.

The internal plug and valve assembly of all "floating" units of Baker Cement Equipment are made entirely of Baker-Formula Concrete and the minimum amount of Bakelite set vertically to present a small cross-sectional area to the bit. No metal EVER is used—only materials which can be easily and rapidly drilled OUT, drilled UP and circulated with rotary mud OUT of the hole. No dangerous fragments are left on bottom to interfere with coring immediately below the shoe, or to deflect the bit and start an off-vertical hole.

BAKER CEMENT FLOAT SHOES

Note above at right, the internal construction of Baker Cement Float Shoes (typical design of all "floating" units) showing the strength of the plug and valve assembly—strength always beyond the collapsing strength of the casing upon which it is run.

This illustration clearly shows the Bakelite ball which floats in rotary mud or cement slurry and instantly provides a leak-proof double-seal at the slightest reversal of pressure.

The circulation areas are large enough to permit free passage of cement, and yet retain a "wash-down" action, so important in many wells.

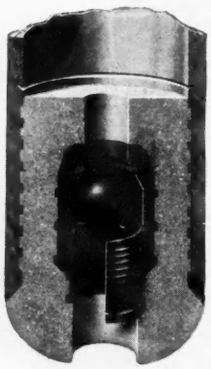
BAKER CEMENT FLOAT COLLARS

The internal construction of these Float Collars is identical to that of the Float Shoe described above. When a Baker Cement Float Collar is placed a joint or two above bottom, the cementing plug is stopped at that point and cement tailings are retained INSIDE the casing. Cement of a better consistency is thus distributed OUTSIDE the shoe and casing. The combination of a cement float collar and cement guide shoe is generally used; in deep wells two cement float collars and a guide shoe or a cement float collar and a cement float shoe provide maximum safety.

BAKER CEMENT WHIRLER SHOES

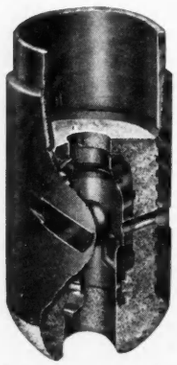
This successful unit serves as a casing guide, a float, and a cementing shoe. In addition to the bottom circulation hole provided in Baker Cement Float Shoes, a number of side circulation holes lead out from the valve chamber. These holes (or side ports) are "baffled" by means of plates set in grooves which are cut at an upward angle.

The greater outlet area and the manner in which the fluid is diverted and directed upward around the shoe and casing, insure proper distribution of cement and minimize "channelling".



Baker Cement Float Shoe

Baker Cement Float Collar



Baker Cement Whirler Shoe

BAKER MODEL F CEMENT RETAINER and CIRCULATION JAR

(Used also as a Casing Bridge Plug)

As a Cement Retainer this efficient device provides a simple and economical means for placement of cement in a well, under pressure, through tubing or drill pipe.

It can be set at any desired depth in the casing, and is widely and successfully used for Re-Cementing, Series Cementing, Cementing Behind Sections of Pipe, Plugging off Bottom Water, Plugging Back to Upper Zones, and for a wide variety of Well Repair Jobs.

When used as a Casing Bridge Plug this tool is set at any desired point in the casing or liner and prevents movement of fluid Up or DOWN the well. It functions as either a permanent or temporary plug. Cast iron construction permits drilling out when operations are completed.

Many records of actual field use, illustrating the success and safety of this modern device, are contained in a complete treatise which we will be glad to send upon request.

Baker Cement Retainer Model F Used also as a Casing Bridge Plug

BAKER O

You can rely upon DEPENDABLE TOOLS!

BAKER ROTARY WALL SCRAPER

This remarkable tool safely performs underreaming never before possible.

The blades open as pump pressure is applied, and cut their way to fully expanded position; continued rotation then enlarges the hole for the required depth.

By proper designing, the maximum OD of each Baker Wall Scraper is held to a size which permits free circulation, and yet permits remarkable expansion. For example the No. 3-A has a maximum body O.D. of only 5⅛" which runs in through 7" casing and can be equipped with blades to ream any diameter from 5¾" to 11".

Every experienced operator will immediately appreciate the advantages offered by this safe, economical tool for . . .

1. Cleaning rotary mud from the face of the producing oil sand, which permits bringing-in the well easily, in less time, and also insures maximum ultimate production;
2. Enlarging the hole for setting large size casing, or for setting largest possible liner without turning down couplings;
3. Enlarging the hole to secure a thicker body of cement around the shoe and casing, and also insuring a perfect water shut-off;

and many other profitable operations, all described in detail on pages 187 to 192 of your 1936 Composite Catalog.

Baker Rotary Wall Scraper

Baker Cable Tool Core Barrel

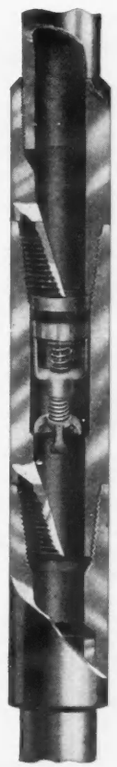
BAKER CABLE TOOL CORE BARREL

This valuable tool has been used for years in practically every active cable tool field. Correct design and simple method of operation enable any experienced driller to secure core recovery of 80% or better.

Cores are easily taken with little loss of time, and the accurate, complete information secured is far in excess of cost and maintenance.

Modern cable tool operators use the Baker Cable Tool Core Barrel:

1. To eliminate danger of passing through sands which might be made productive by "shooting";
2. To secure positive proof as to whether a sand is oil-bearing, water-bearing, or dry;
3. To select proper casing locations.
4. To determine breaks separating oil-bearing from water-bearing horizons, and for other uses described on Page 197 of your 1936 Composite Catalog.



Baker Bakwik Drill Pipe Float

BAKER BAKWIK DRILL PIPE FLOAT

This proved device provides the advantages of a back-pressure valve in the drilling string, but eliminates the difficulties previously experienced in removing the valve assembly from the body.

The valve assembly rests on a strong shoulder and is held in place by the bottom of the tool joint pin just above it. It is merely dropped into place, and as easily removed by hand when surveying instruments are run, or other operations require unobstructed passageway.

With a Bakwik in the drilling string you can . . .

1. Relieve weight on the lines, draw works, derrick and rig equipment;
2. Minimize danger in case of a parted string of drill pipe;
3. Prevent plugging the bit;
4. Do away with stop-cocks on the drilling string and secure other advantages described on Page 205 of your 1936 Composite Catalog.

Look on Pages 168 to 216 of your new Composite Catalog for the complete line of Practical and Dependable Tools made by Baker!

Refinery Activity High

LOCATION OF NEW CONSTRUCTION UNDERWAY WILL HAVE INFLUENCE ON OIL PRODUCTION

By GEORGE REID, Staff Writer

As the consumer of crude oil production, the refining industry of the world directly influences the oil producer. Construction, location and processing methods are of vital interest and concern to oil producing concerns. The marked activity in refinery construction throughout the world during the past year or so presents two viewpoints to the producing branch of the industry. One of these is the work within the United States and the other is foreign construction work. Both activities are and will bring about a change in the flow of crude petroleum through the marketing channels of international trade.

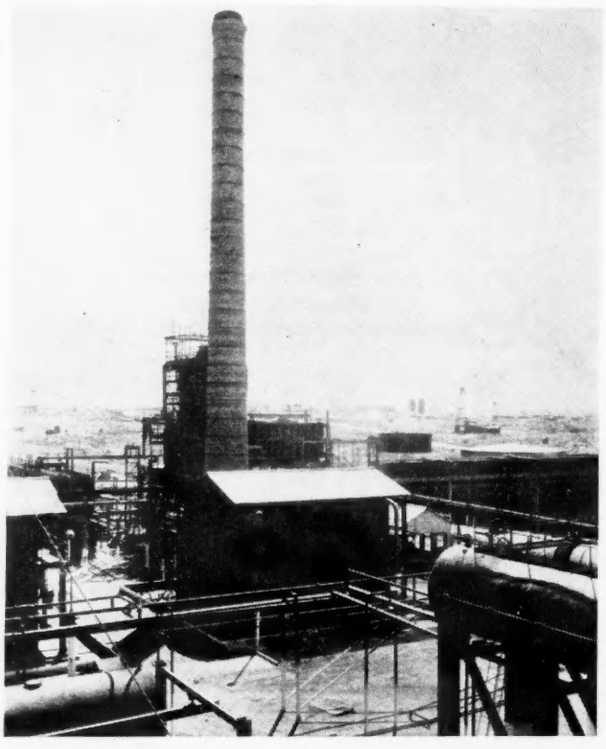
In the United States refining companies are bent upon bringing their refining facilities up-to-date and in line with latest available modern, efficient processes. Accompanying the installation of new cracking, reforming, combination and distillation facilities, as well as erection of modern solvent refining processes for manufacture of better lubricating oils, there has been some construction of important new refineries. For the greater part, however, domestic activity, now of greater proportions than at any time during the past five years, has been confined chiefly to modernization of existing facilities rather than the expansion of capacity or the establishment of new large refineries. There are, of course, a few exceptions to this statement, as is evident by the erection of new refineries in the Gulf Coast district.

The foreign view is somewhat different. In many countries rehabilitation and modernization of refineries has been and is under way, but not to the extent noticed in the United States. On the other hand, there has been and there still is much activity in a score of foreign nations in the establishment of refining industries—which naturally brings about the construction of new large and modern refineries. In many countries the program is not yet complete and should extend throughout the next two years before nationalistic plans reach full fruition.

Several important factors contribute to the present widespread activity in construction in the manufacturing branch of the petroleum industry. Throughout the world there is a general trend toward replacement of worn out equipment; a condition brought about by obsolescence of processing facilities in most instances, and given acceleration through the availability of highly efficient modern facilities. The efficiency of combination units that skim, crack, and reform naphtha fractions in one operation has been demonstrated sufficiently that petroleum technologists recognize that older methods of operation should be termed obsolete. In the lubricating oil field the adoption of solvent methods of refining and dewaxing is progressing more rapidly than was thought possible by many. In foreign refining countries the acceptance of American standards of operation is strikingly apparent, and foreign activities in regard to modernization and establishment of new refining centers have had a distinct tendency to closely parallel the activities and expenditures for similar work in the United States.

Foreign Work Important

As to the actual construction work and its location, perhaps the most important factor is that of the rapidity and intensiveness of development of refining industries in foreign countries. The past two years has seen the course of oil flow through world marketing channels rapidly changing, and the change will continue to manifest itself through the next few years. The well-formed nationalistic programs of such countries as France, Germany, England, Rou-



Phillips Petroleum Company's polymerization plant at Borger, Texas.

IMPORTANT EVENTS IN PETROLEUM REFINING 1935

MARKED activity in construction of new refineries in many foreign countries, which began about three years ago, continues, and such programs will not be completed for another two years at least.

The refining industry in the United States devoted itself actively to reconstruction and modernization of existing facilities, replacement of worn out equipment with modern processes, and establishment of a few new refineries.

Published reports, estimated to be about one half of actual construction at refineries throughout the world in 1935, indicates expenditures of around $90,000,000 for new facilities and equipment. Total money spent was probably double that indicated by published records.

The combination cracking unit that skims, cracks and reforms in one operation, and which is available in very large capacity ratings and operable at very low cost, tends to replace former equipment.

In the manufacture of lubricating oils, solvent refining and solvent dewaxing processes have been adopted throughout the world more rapidly than was thought possible a year or so ago.

The polymerization process for preparation of additional gasoline from refinery gases, and a liquid of exceptional blending value for higher octane rating motor fuels, is being relatively rapidly adopted by refining companies and its use should be quite extensive within the next few years.

mania, Spain, Italy, Japan and Russia, to mention a few, are actively seeking conditions wherein each country will be independent of others, especially with regard to oil. Where petroleum is not produced within the borders of a country, or not available in sufficient quantity to supply its domestic needs, there still can be a domestic petroleum refining industry which can and will provide that country with the petroleum products required within itself. No one overlooks the fact, on the other hand, that the United States greatly aided in the stimulation of development of refining industries in foreign countries through placing of high import duties on foreign produced crude oil. The most important reaction to this policy was establishment of very large refineries in the Netherlands West Indies. In the European countries, where the nations are largely concerned with nationalistic doctrines and policy, high duties on finished petroleum products not only made advisable, but actually necessitated establishment of refineries within the borders of those countries—and since American capital was largely interested in petroleum products distribution and sale in most of these countries, it naturally follows that for the most part, the large, modern and highly efficient refining plants recently built and now being erected are largely financed and owned by American oil companies. This is especially true with regard to refineries in France, Germany, some in Poland and Roumania, England, and to several of those proposed or building in Italy.

Another factor, concerning which oil companies operating on a far flung front throughout the world are reticent to discuss, is the possibility of another world-wide conflict with its inevitable embargoes and still more inevitable hazards to shipping and operation. Many observers and commentators are inclined toward the belief that such a conflict is closer than generally admitted or anticipated by most, and that the brand of statesmanship needed to forestall such conditions is now non-existant, or if existing, it is too late to bring it into play. With the possibility of war being brought about ultimately, it is well that each of the countries or nations not only have petroleum refining interests both within their boundaries and in their island or colonial possessions, but that these refineries be the last word in modernity and of relatively large daily capacity. Such plants, regardless of what may develop in military circles, are also advisable and practically equally essential from an economic viewpoint, and the present activity in both modernization and establishment of new plants is to be accepted as a matter of good business in being prepared for the better times toward which the world is struggling and progressing.

These are the conditions that have brought about the change in the flow of crude petroleum through the market channels of the world. In addition to the recognized influence of import duties on finished products imposed by most foreign countries, and the import duty on crude petroleum imposed by the United States, there has developed a recognition of the value of established petroleum refineries in the island and colonial possessions of the various nations. Likewise, there has been a tendency on the part of many governments to engage in the refining of petroleum as a government enterprise and there is found established and apparently permanently functioning oil refining establishments erected by such countries as Mexico, Spain, Russia, Uruguay, Japan, and others. The past year has seen an increase in interest and actually ownership of oil refineries by several nations and these nations attempt to achieve protection of their industries by tariffs on petroleum products manufactured outside their borders. The policy serves to give additional employment to the country's citizens, and this is further aided usually by demands upon the part of government that all possible equipment for such plants be purchased in the country where such construction is underway.

The United States petroleum refining industry suffers to some extent through loss of exports by fulfillment of such desires upon the part of foreign countries. This loss, however, has been offset to a marked degree by an increase in domestic demand for motor fuels, lubricating oils, greases, Diesel fuels, liquefied petroleum gases and fuel oils. The total consumption of oils during 1936 in this country is predicted to increase still further over the peak demand established during 1935. This, of course, should indicate an increase of some importance in the needs of domestic refiners for crude petroleum during this year.

During the past year, as previously stated, construction work in this country has not brought to light the establishment of many new major refineries. For the most part major companies and most of the larger independents have, of necessity chiefly, given attention to the modernization of existing equipment, or the erection of newer processes to replace obsolete or worn out processes operating when the country was plunged into the depression years. The only

domestic refining district to see important new refinery installation was the Texas Gulf Coast where completed work, work under way or announced and work contemplated by certain companies indicates that this area is destined to become the leading refining district of the United States. Companies operating in this area, such as Gulf Refining Company, The Texas Company, Humble Oil & Refining Company, Magnolia Petroleum Company, Shell Petroleum Company, Sinclair Refining Company, Pan American Refining Corporation (now doubling capacity), Pure Oil Company, Crown Central Petroleum Corporation, Republic Refining Company, and the new entrant, Atlantic Refining Company, and several smaller concerns, have been or are now engaged in reconstruction and new construction work and such improvement and expansion programs are of the major type in importance. The area is the principle pipe line outlet for crude produced throughout Texas, part of Oklahoma, New Mexico, North Louisiana and South Arkansas; and the terminal facilities maintained and being erected by the concerns engaged in this area are serving not only as shipping points for exports of oil and its products but for both coastwise shipment and for barging to the eastern markets via the Mississippi River and its tributaries.

Polymerization a New Process

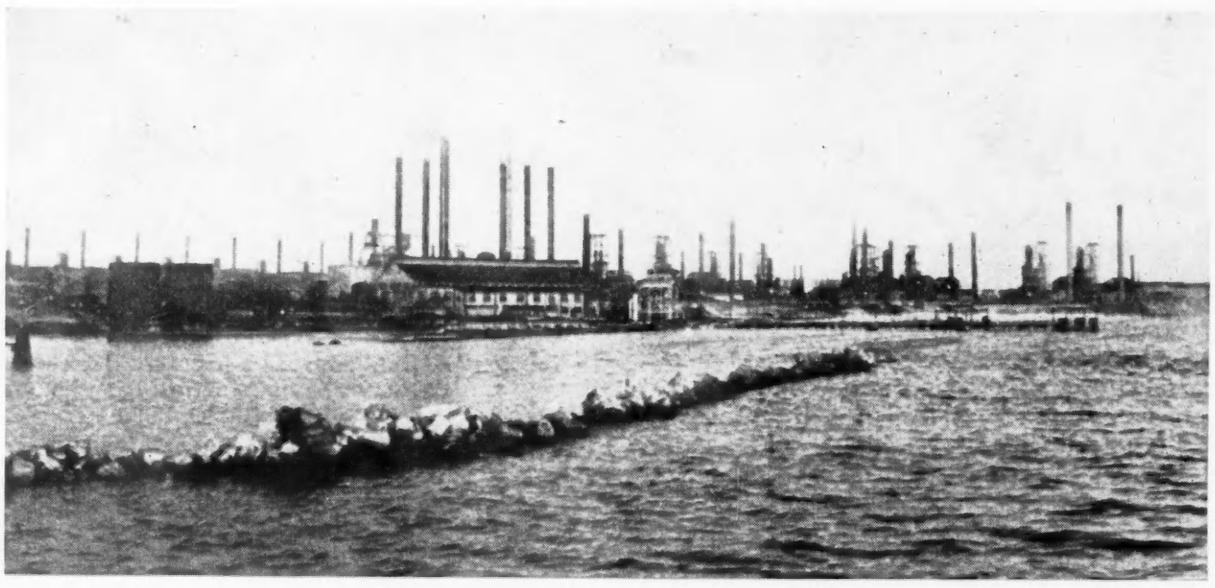
During the past year the petroleum technologist has handed the refining industry another process for increasing production of motor fuel and increasing quality. Extensive utilization of the polymerization process as a tool for production of more and better gasoline bids fair to come about within a much shorter time than was estimated just a few months ago. Several of these plants are now in operation and virtually all major refining companies are planning erection of such units in the near future.

The gases produced by the cracking unit, its steady volume and its low value, have spurred on certain research workers for the past several years, for these gases are rich in certain constituents which at least seemed a sorry waste. The liquefied petroleum gases market cannot absorb the propanes and butanes for which the refiner had little other use, save as fuel, previously. These waste or fuel gases also contain a rather wide variety of other very useful hydrocarbons which if subject to molecular rearrangement could be advantageously used in motor fuels for upon such rearrangement they possess marked anti-knock properties.

Polymerization plants as now available commercially polymerize the olefins in cracking plant gases to liquids boiling in the gasoline range. The new processes will decompose the paraffin hydrocarbons in the gas to olefins, and then polymerize these olefins into liquids of high octane value for use in motor fuels. Polymerization, incidentally, consists of the preparation of heavier molecules out of the lighter ones, the reverse of cracking, and the processes are strikingly similar to the cracking processes so widely used by the industry, and like them, some are low pressure and some are high pressure processes.

With this definitely established and with recovery or yields running usually around five to seven gallons per thousand feet of gas (or a conversion of around 50 percent where liquids are charged), and with the promise of still higher recoveries, it is not without the realm of reason to not only expect "poly" plants wherever there is a battery of cracking stills, but also to expect a time when such plants will operate with commercial success on natural gas as it is produced at the oil well. It is a matter of pure conjecture, at this writing, whether the "poly" plant making motor fuel from natural gas will be erected in the gas field, or be erected at the end of a pipe line close to the motor fuel market. At best, however, this phase of polymerization development is still somewhere in the future. Certain it is that the "poly" plant will come to the refinery in its present state of development and remove some of the functions of the present absorption gasoline recovery plants in the refinery yards.

Standard Oil Company of New Jersey's refinery at San Nicolas, Aruba, N. W. I. Venezuelan oil is transported here for shipment to all parts of the world.



More Pipe Line Work

1935 SAW THE RETURN OF ACTIVITY AND ADDITIONAL CONSTRUCTION IS ANTICIPATED

PIPE line construction, which during the past several years has been practically dormant except for short systems, returned to activity during 1935 and is expected to continue its present busy expansions during 1936. In fact, it is anticipated that pipe line work during the coming year may exceed that of 1935. This belief is based on the fact that activity was at its peak during the closing weeks of 1935.

Three Gasoline Lines

There were three important gasoline lines constructed or underway during the year. In the eastern part of the United States, Keystone Pipe Line Company laid 177.2 miles of eight-inch trunk line from its Mechanicsburg terminal, near Carlisle, Pennsylvania, to Pittsburgh. Upon completion of the original project a loop was built from a point on the main line near Murrysville via Dequesne to the Hays community on the south of Pittsburgh, involving 16½ miles of eight-inch line. All pipe line construction was completed by the middle of December.

Humble Pipe Line Company late in December authorized the construction of an eight-inch line to transport natural gasoline and its by-products from the East Texas field to its Baytown refinery on the Gulf Coast. This line is now under construction. A booster pump station will be located near London, Rusk County, with connecting lines scheduled to be built to Humble Oil & Refining Company's natural gasoline plants at London and Kilgore and also to Hanlon Gasoline Corporation's big plant in north central Gregg County. The main line will extend south from London, parallel with the company's multiple crude line system to Groesbeck, Hearne and Webster. From 60 to 70 miles of new pipe will be used in the system, while the remainder will be made up of renovated crude lines.

On March 25, 1935, Cimarron Valley Pipe Line Company, a wholly owned subsidiary of Champlin Refining Company, started construction work on a 260-mile 6⅝-inch welded gasoline line from its Enid, Oklahoma, refinery to Superior, Nebraska. When completed about the middle of the year this line gave the northern Mid-Continent area its third gasoline system running to the northern Mississippi Valley. The only other activity in gasoline transmission work was the laying of a four-inch loop from Muskogee, in northern Muskogee County, Oklahoma, to Okmulgee in central Okmulgee County, by Great Lakes Pipe Line Company. This is a distance of about 20 miles.

Oklahoma-Kansas Active

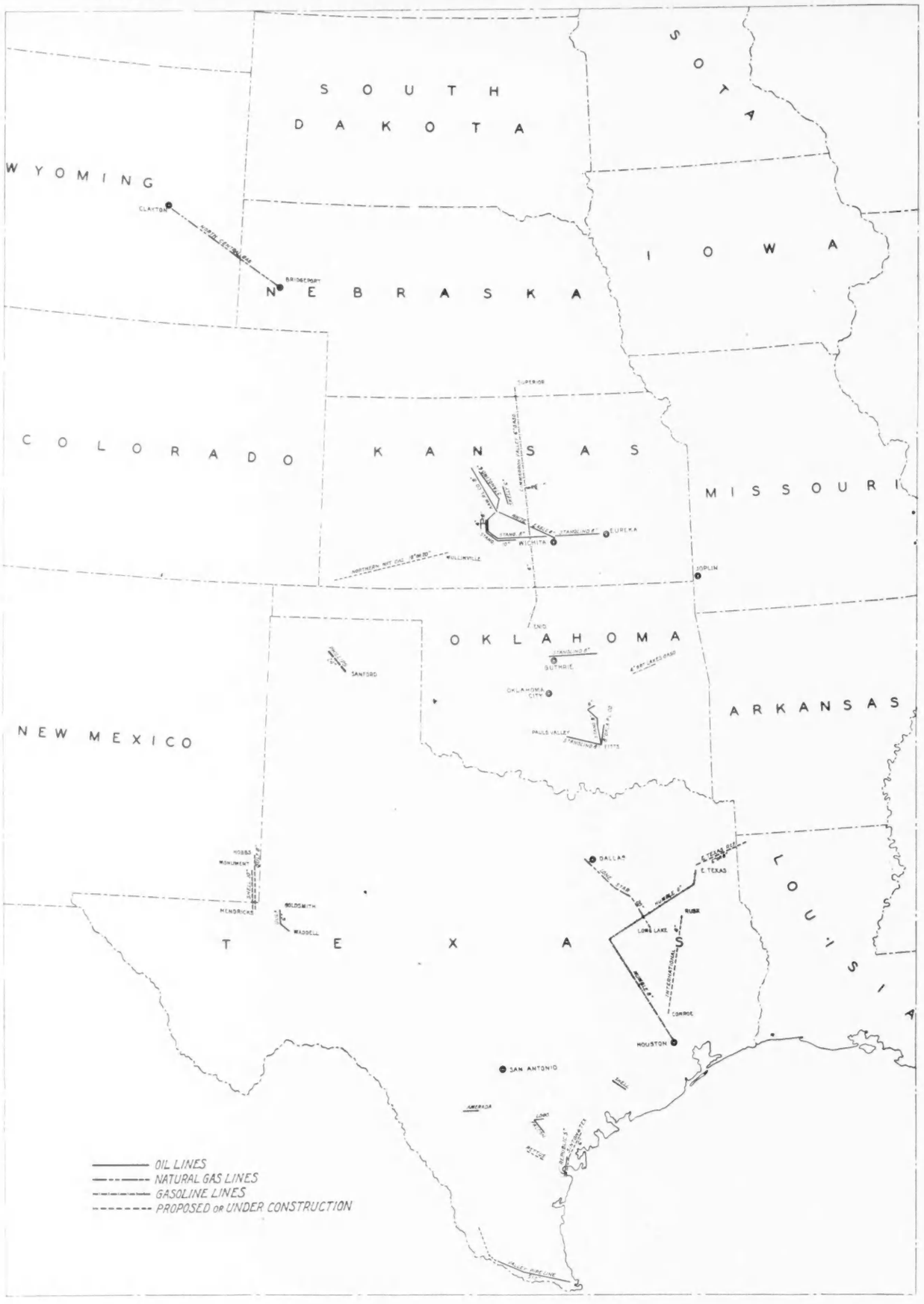
Pipe line construction in Kansas and Oklahoma during 1935 was featured by the building of a 260-mile gasoline line from Enid, Oklahoma, to Superior, Nebraska, the entry of three new oil pipe line systems and the wide expansion of another into western Kansas counties, the rapid expansion of outlet systems from the Fitts pool in southeastern Pontotoc County, Oklahoma, and a large number of small diameter lines of short length to new pools in both states. Thirty-six new pools were discovered in western Kansas counties. Inadequate facilities were responsible for the fact that most of these pools did not get an outlet during the year.

Several prospective lines were discussed, one being a cooperative system from Valley Center in Sedgwick County, westward into Russell County, and subsequently to Denver, Colorado. This proposition did not materialize. Later in the year Skelly Oil Company purchased 37½ miles of old line from Standish Pipe Line Company, a subsidiary of Phillips Petroleum Company, and laid a new six-inch line from a point near Lyons in central Rice County to the Lorraine pool in southwestern Ellsworth County. This was a part of the old system which Standish Pipe Line Company earlier in the year had purchased from Central Kansas Pipe Line Company. At the time of purchase Standish Pipe Line Company laid 11 miles of line from a point in the Ritz pool in eastern McPherson County to near the city of McPherson to join its system to that of the Central Kansas Pipe Line Company which it had purchased effective March 1, 1935.

Shortly after Skelly Oil Company had started its line into southwestern Ellsworth County, the White Eagle division of Socony-Vacuum Oil Company announced that it would build an eight-inch line from Valley Center, where it would tie in with already existing lines of the company eastward into Greenwood County, 75 miles northwestward to a point near Chase in western Rice County. At this time Kaw Pipe Line Company was organized by Phillips Petroleum Company, The Texas Pipe Line Company and Empire Pipe Line Company to build an eight-inch line from the Chase terminal of the White Eagle line northwestward to a point near Russell in western Russell County, a distance of approximately 50 miles. This line was constructed of some new pipe but a majority of the pipe was from old lines which were taken up in southern Oklahoma and northern Texas. Kaw Pipe Line Company and White Eagle entered into an agreement to operate the two systems as a unit but each company building and operating its own system. The two systems were completed early in 1936 and immediately started laying laterals to several of the more recently discovered pools in western counties.

Stanolind Pipe Line Company, already a large purchaser in western Kansas, started early in the year reworking and expanding its system into that part of the state. From Salyards Junction in western

Pipe Lines Laid in 1935 in Mid-Continent, Rocky Mountains and Gulf Coast



Greenwood County it laid an eight-inch loop west to southwestern Reno County, thence northwestward to east central Stafford County and northward to the Gates pool in Stafford County. This system also was given a 10-inch loop from the Greenwich area of Sedgwick County to a point in northwestern Sedgwick County and another 10-inch loop from a point in southwestern Reno County north and northwestward to the Gates pool. From the Gates pool an eight-inch loop was laid northeastward into southwestern Rice County and northward into northwestern Rice County. From that point six-inch loop was laid into southwestern Russell County. All of this line was laid parallel to an existing system.

With a rapidly growing allowable due to the completion of a large number of big wells in the Fitts pool of southeastern Pontotoc County and the discovery of gusher production in the new Jesse pool nearby, purchasers in Pontotoc County have found their systems sorely taxed to keep all producers satisfied. As a result several loops have been laid from that part of the county. Early in the year Stanolind Pipe Line Company constructed an eight-inch loop from the Fitts pool westward to Pauls Valley, a distance of 40 miles. Late in the year the same operator completed an eight-inch line from the Fitts pool northward to Byng Station in northern Pontotoc County, approximately 20 miles. From Byng Station an eight-inch loop was laid north and northwestward to the Maud area of eastern Pottawatomie County and thence northeastward into western Seminole County. The latter section of line, 24 miles in length was completed on December 15, 1935, and work on the stations was carried over into 1936. The station at Maud is being given increased capacity and the station at Fitts was being approximately doubled in capacity. Oklahoma Pipe Line Company increased its capacity from the Fitts pool with an eight-inch loop to Francis in northern Pontotoc County.

Announcement has been made by Northern Natural Gas Company that it will lay either an 18-inch or 20-inch gas line from the Hugoton gas field in the southwestern corner of Kansas to Mullenville in western Kiowa County, Kansas, 106.8 miles. This probably will be one of the longest large diameter gas lines which will be laid during the year in the Mid-Continent.

Much South Texas Work

More pipe line construction was recorded in South Texas during 1935 than in any 12 month period during the past five years. Trunk lines to deep water, several hundred miles of gathering systems and local lines to railroad loading racks dotted the territory.

The new year, however, gives promise of exceeding that figure with several important projects expected to be started immediately. These include trunk outlets out of the Mirando district, Refugio and Plymouth fields to deep water port at Corpus Christi.

An important project now underway is by a group of Duval County crude purchasers, the names of which are withheld. They have let a contract to N. A. Saigh Construction Company, which is building the line from Loma Novia field to loading racks in San Diego. The line is 5¼-inch and is 23 miles long. Pump station, powered by Diesel motors, is being erected in the field. The line will deliver oil to the loading racks, where it will be taken in tank cars to Corpus Christi deep water terminal as well as other points. It has not been announced whether or not the line later will be extended to Corpus Christi. The building of such a line will be the third trunk outlet for the highly active Mirando district, two other lines being operated by Humble Pipe Line Company and Magnolia Pipe Line Company.

The other important pipe line project for 1936, which already is underway, is an associate deal in which Sinton Pipe Line Company and Texas Pipe Line Company are building a line from Corpus Christi to Plymouth field, thence to Refugio area. This involves the laying of a 40-mile, six-inch pipe.

While nothing definite has been announced, a deal is reported to be in the making in which a line will be laid from the Samfordyce field to the Rio Grande City field, with the expectation of later extending it to the Cuevitas field in the northern end of Starr County, a total distance of nearly 50 miles.

A fourth project is probable for 1936, although nothing definite has been announced. This will be an outlet for the Pearsall district, which came into prominence late in the year with two large deep producers. About 35 miles of pipe would be required to connect this line into Humble Pipe Line Company trunk system from West Texas to the Gulf Coast.

During 1935, the largest single project was the construction of Valley Pipe Line Company's 85-mile 5½-inch pipe line from the Samfordyce field to the new deep water outlet at Port Isabel. This port was opened during September of last year and has been loading out short cargoes of crude, due to the shallowness of the port. Cargoes generally are about 50,000 barrels each. The pipe line has a booster station at Mercedes, which gives it sufficient pressure to carry 5800 barrels of oil per day.

Second in importance in pipe line construction during the year was Republic Pipe Line Company's project from the Plymouth field in San Patricio County to Corpus Christi. While this was only a 20-mile, five-inch line, with one pump station, the project gave this important field a deep water outlet.

The Texas Company has been acting as terminal agent for the above line and will also handle oil from the Sinton project. As a result, The Texas Company is at this time building three 80,000 barrel storage tanks to increase its port storage facilities to nearly 500,000 barrels. General American Tank, Terminal and Storage Company, also at Corpus Christi, increased its storage facilities at tidewater during the year.

Among the smaller pipe line projects were connections from the Mauritz field to main trunk line, small line out of the Tomoconnor field, Magnolia Pipe Line Company connection to the Lopez field, Southwest Gas Company line from Fordtran gas field to Yoakum, small gas line out of Samfordyce field to several irrigation pump stations, gathering lines out of the several newer fields in Live Oak and Bee counties to loading racks, Amerada Petroleum Corporation's nine-mile line across a portion of its Pearsall properties to loading rack on railroad, and extension to the South Darst Creek field.

A number of miles of gathering system was constructed in the immediate Government Wells area, where the main drilling activity was witnessed during the year. Several companies, mainly Humble and Magnolia, entered the Loma Novia field with lines. Latter company has connections into the Seven Sis-

ters field. Humble Pipe Line Company erected one new pump station and Magnolia Pipe Line Company is building two pump stations on their lines out of the Mirando district to increase capacities.

Texas Gas Systems Expanded

Lone Star Gas Company, Dallas, constructed the longest natural gas line in Texas the past year through having built 108.9 miles of 20-inch line in connecting its North Texas system with the Cayuga and Long Lake fields, located in northwest and southwest Anderson County, respectively. The new unit extends from Irving Junction, located between Dallas and Fort Worth, in a southeast direction to Trinidad, crossing the Trinity River at the latter point, thence southeast to the main section of the Cayuga field. The Irving-Cayuga section of the line was placed in operation early in December, and that section of the line, extending south by east from Cayuga to the Long Lake field was completed in 1935, except for a single stream crossing.

No booster stations are required to deliver natural gas from the two Anderson County fields to Irving Junction, as the contracted gas supply averages about 2000 pounds rock pressure at the wells.

Lone Star Gas Company completed construction work early in June on 11 miles of 12-inch natural gas line, extending from Riesel to Waco, and parallel to an existing 8-inch carrier. This added unit was built to afford a direct 12-inch line from the Long Lake field to Waco, as a 75-mile 12-inch line from the latter field to Riesel was completed and placed in operation in December, 1934.

Phillips Petroleum Company expanded its natural gas gathering facilities in the Texas Panhandle through the construction of a 23-mile 24-inch welded line from the Sunray field, north central Moore County, to Sanford, Hutchinson County, where sour gas production will be processed by natural gasoline and carbon black plants. The trunk line was placed in operation last October. Installation of the gathering system, which will involve in the aggregate more mileage than the trunk line, has not been completed. The line affords a maximum capacity of more than 150,000,000 cubic feet daily without booster stations, as the contracted gas supply is delivered at average well pressure of 400 pounds.

Permian Basin Work

Permian Basin district in West Texas and New Mexico added a number of comparatively short pipe line extensions during 1935, and towards the close of the year two separate trunk lines were authorized to improve transportation from fields in southeastern Lea County, N. M.

Shell Pipe Line Corporation announced late in December its plans to build about 41 miles of 10-inch line from its West Texas trunk line terminal near the Hendrick field, Winkler County, Texas, thence due north into Lea County to tie into a system already in service. The new unit will enable the company to discontinue the routing of crude gathered in the Hobbs field via The Texas Pipe Line Company's trunk line system from a point about five miles southwest of Eunice to the Hendrick terminal, and will be 30,000 barrels in capacity without adding intermediate stations.

Gulf Pipe Line Company was the most aggressive in building lines in West Texas during 1935, and late in 1935 made plans to start work shortly on the extension of its system from Hendrick station, thence north into New Mexico to the Hobbs field. This projected line will involve about 65 miles of eight-inch pipe, and considerable mileage in gathering systems, which will be installed in the Hobbs, Monument and Eunice fields. During 1935 the company built a nine-mile six-inch crude line from its Hendrick to the Keystone field, Winkler County, and 17 miles of six-inch line from its Judkins station to the Goldsmith field, Ector County. Nine miles of six-inch line was also built from Judkins station to the north end of the Waddell field, Crane County, thus replacing a small temporary transportation outlet for the latter area.

Humble Pipe Line Company built seven miles of four-inch and 11 miles of six-inch line from its Ogden field, Andrews County, booster station to the Means field, located in the north central portion of the same county.

New East Texas Outlet

Another direct crude line from the giant East Texas field to the Texas Coast was authorized late in 1935. American Liberty Pipe Line Company, Dallas, first independent company to attempt such an outlet, purchased 115 miles of eight-inch pipe and equipment for three booster stations late in December to be used in building from Rusk station, Cherokee County, to Conroe. The field gathering system of the International Pipe Line Company and the eight-inch trunk line system of the Liberty Pipe Line Company that extends from Kilgore section of the field to Rusk station will comprise the north unit of the trunk line, while the Channel Transport & Marketing Company's eight-inch carrier from Conroe field to Norsworthy terminal on the Houston Ship Channel will be tied into in reaching deep water facilities.

But Little California Work

The year 1935 saw very little pipe line work in California and outside of certain rerouting and a few gas lines the main work was in connecting up major existing lines with certain producing areas.

Most important project was that of Standard Oil Company of California in rerouting its line from San Joaquin Valley to Estero Bay in San Luis Obispo County. This new work was completed in March, 1935, and consisted of 108 miles of 12-inch welded line from Rio Bravo station in Kern County. An old line was torn up and reconditioned pipe used for 96 miles of the new line. Six pumping stations were built and required storage was built at the pumping stations and at the terminal. The cost was close to $4,000,000 and about 1000 men were employed for six months.

General Petroleum Corporation in 1935 completed a 10-inch line from Lebec to the site of the company's new refinery at Torrance in Los Angeles County, a distance of 88 miles.

Industrial Fuel Supply Company completed later in the year 22 miles of 10¾-inch welded line for the movement of gas from the Mountain View field to connect with a main line running to the San Francisco area.

F. R. Long, Inc., during 1935 built 9000 feet of 16-inch pipe line to move gas from the Playa del Rey extension of the Venice field to Ohio Oil Company's

natural gasoline plant at Venice. Another short gas line was built late in the year, to move gas from Mountain View to Edison in Kern County, a distance of only four miles. The line is owned cooperatively.

Southern California Gas Company built 9½ miles of welded pipe line to connect the Semi-Tropic gas field with its main line, being a combination of 10 and 12 inch. The same company also laid 6½ miles of 10-inch welded line to connect the new gas wells in the Buena Vista Lake area in Kern County with its main line.

Michigan Active

There was considerable pipe line expansion in Michigan during 1935. The major pipe line construction project was that of Simrall Pipe Line Company and Standard Oil Company of Ohio. These concerns laid a 140-mile, eight-inch line from the 1935 discovered Crystal field to Toledo, Ohio. The line is now practically completed and is expected to be ready the first of February, 1936, with a capacity of 25,000 barrels daily.

Other oil line work consisted of gathering systems and short extensions to existing systems.

Several gas lines were laid. Most important was Consumers Power Company's eight-inch, 70-mile line from the Broomfield pool to Zilwaukee, Saginaw and Bay City. The same company also has a 10-inch line under construction from the Belvidere-Millbrook gas field at Lansing, a distance of 70 miles.

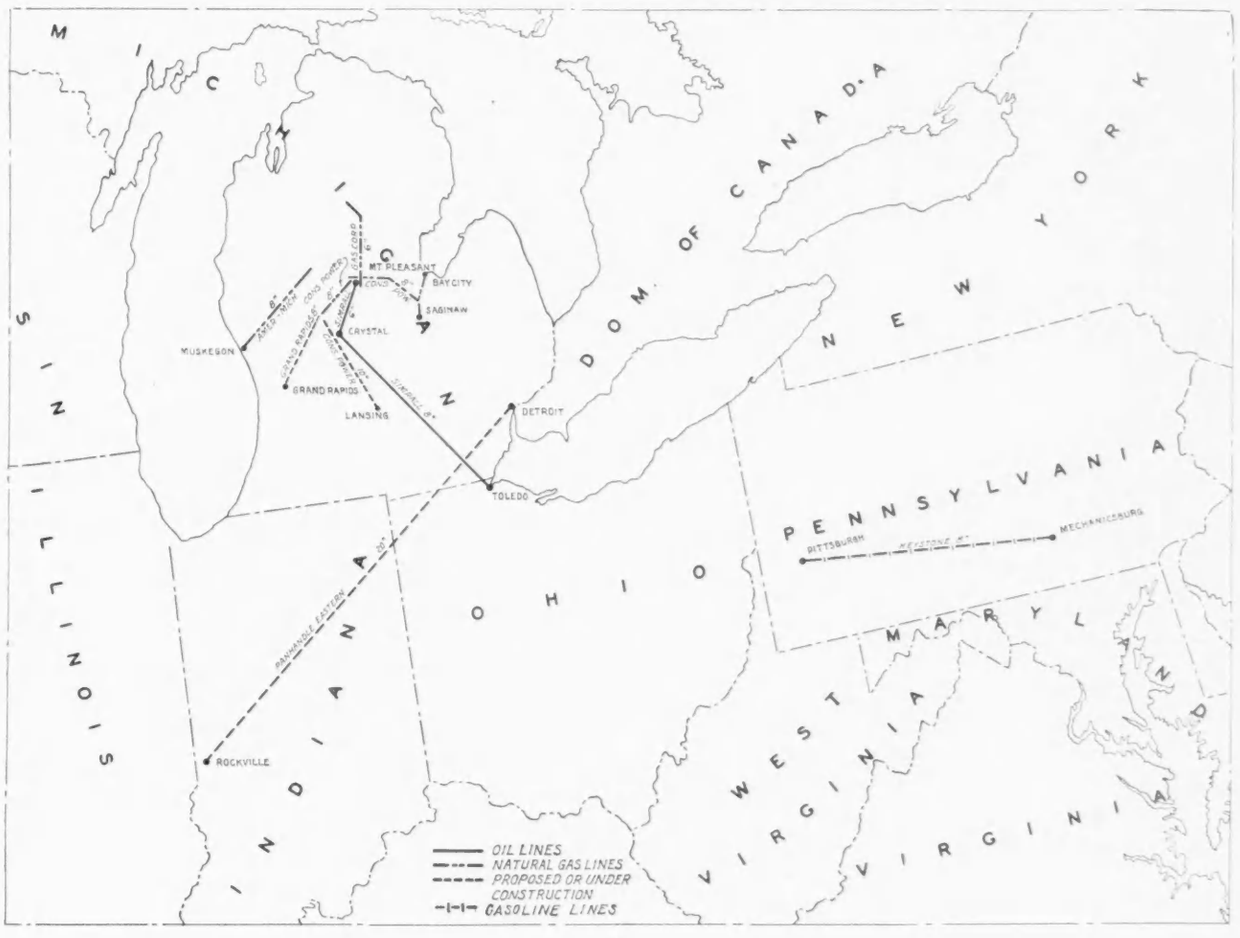
Grand Rapids Gas and Light Company proposes a 57-mile eight-inch line from the Millbrook gas field to Grand Rapids.

Most important of the prospective lines is that of Panhandle Eastern Pipe Line Company, which may lay a 300-mile 24-inch main from Rockville, Indiana, to Detroit, Michigan. This would make Texas Panhandle gas available to Detroit consumers.

Rocky Mountain Gas Line

One of the most important gas line projects in the country was North Central Gas Company's line from Clayton, Wyoming, to Lewellen, Nebraska, which will total 217 miles with construction now being completed. It is composed of 65 miles of 12¾-inch pipe; 56 miles of 10-inch; nine miles of eight-inch; 18 miles of six-inch; 14 miles of four-inch and 55 miles of three-inch pipe. Most of the pipe was reconditioned, although a part was new. It became necessary to lay this line when Stanolind Oil & Gas Company last fall served notice that it would not renew lease on the section of its gravity flow oil line from Teapot, Wyoming, to Freeman, Kansas, which North Central had been using. Stanolind Pipe Line Company will recondition the line and start running oil through it.

Pipe Line Construction in Michigan and Eastern States During 1935



Increased Drilling Opens Many New Fields

LACK OF MARKET THREAT, RESERVE SEARCH AND BETTER PRICES INFLUENCE ACTIVITY

FIELD development work during 1935 was featured by the continuation of increased drilling operations that started in 1934 and by the discovery of a large number of new fields, as well as extensions and new producing horizons in old districts; all the result of a most widespread and intensive search for additional crude oil reserves and the second full year of a dollar or better crude oil price.

Looking into the future it appears at this time that additional drilling may be anticipated in 1936, although not as large an increase as during the past year. Both conditions that caused more drilling during 1935 promise to hold good during 1936, for the search for new reserves will continue unabated and the price for crude oil is already higher than in 1935, having been boosted in January, 1936. Moreover, there are additional factors of favorable nature that will influence drilling activity materially. These additional favorable factors are: production being fairly well in balance with an all-time peak consumption and lessened volumes in storage.

Despite the large number of new strikes made during 1935 the industry entered 1936 without any area threatening to disturb the balance between production and the growing demand for petroleum and its products. Fortunately, the volume of crude reserves discovered apparently were not in keeping with the number of new fields opened (unless some areas not yet sufficiently developed to accurately predict their future do better than anticipated). This does not mean that there were not any important strikes during the year, for there were several of great national value, but none of them appear likely to get out of hand. It may be that the industry has learned an important lesson; namely, that it is more scientific to produce fields over a longer period than heretofore practiced. Outstanding among the new fields discovered was Rodessa, Pearsall, Fitts Wilcox sand, Lea County and Anahuac. These will be discussed under their various district headings published on following pages.

During 1935 there were 3,623 more wells completed than in 1934, the 21,132 tests resulted in 13,649 producing oil wells, 1,730 gas wells and 5,753 dry holes. With only a few minor exceptions, all states in the union showed heavy increases in drilling activity. Of particular interest is the anticipated continued drilling activity in most districts during 1936.

The following pages carry individual discussion on each important district.

Fifty-Two New Fields Increased Kansas' Oil Reserves

By FLOYD SWINDELL, Staff Writer

THE year 1935 brought the greatest and most widespread development campaign that Kansas operators have known during the history of the petroleum industry in the state. A total of 1314 completed wells involved 3,706,814 feet of drilling of which 615,945 feet, or 16.62 percent, was in exploratory work. Included in the 1314 completions were 909 oil wells with a total estimated initial capacity of

Sizes of Kansas Wells by Production Classification and Potentials by Groups

Average Well Size Classification	No. of Wells In Class	Potential 12-20-35
10,650—10,750	24	255,844
4,050— 4,150	1	4,076
1,650— 1,750	.....	.....
1,550— 1,650	4	6,295
1,450— 1,550	67	102,951
1,350— 1,450	2	2,816
1,250— 1,350	39	51,266
1,150— 1,250	18	21,095
1,150— 1,150	2	2,138
550— 1,050	204	131,770
200— 550	497	147,195
100— 200	321	42,726
50— 100	562	39,761
25— 50	398	12,745
20— 25	115	2,765
15— 20	103	1,725
10— 15	243	2,895
5— 10	3,004	18,685
0— 5	14,103	14,934
Totals	19,707	861,682

Field Development and Outlook

841,981 barrels, 37 gas wells with an estimated combined initial volume of 445,580,000 cubic feet and 368 dry holes. At the end of the year 19,707 producing oil wells were rated potentially by the oil and gas conservation department of the Corporation Commission at 861,682 barrels daily, the highest official rating ever given the state and probably the greatest amount of actual current reserves ever available at one time during the more than 60 years of productive history.

Exploratory Development

An extensive leasing campaign had been under way during 1934 and the early part of 1935. During this period a major portion of the central western part of the state was studied geophysically and geologically and the more highly prospective areas taken under lease. A total of 206 wildcat tests were completed over a widely scattered area during the year. These included 56 oil wells rated initially at 26,412 barrels daily, three gas wells rated initially at 28,000,000 cubic feet and 147 dry holes. Some of these later proved extensions rather than new field discoveries.

The first discovery of the year was made by Atlantic Oil Producing Company with Mary E. Vaniman 1, C SE NE 15-20s-33w, south of Scott City in southern Scott County. This test topped Mississippi lime at 4670 feet and made 572 barrels initially at 4686 feet, the total depth. This established the westernmost oil production in the state, and made considerably more attractive the large Western Kansas Basin. Lack of pipe line connections was responsible for holding down development to a low point during the remainder of the year in that area. Following this in rapid succession came the discovery of 51 other oil and gas fields and the extension of or finding of new horizons in seven others. Russell County operators were the most successful with 12 new pools to their credit; Barton, Cowley and Rice Counties, had six each; Butler County, four; Ellis and Reno Counties, three each; Stafford, Elk and Woodson Counties, two each; and Scott, Harvey, Ellsworth, Barber, Rooks, Sedgwick and Grant Counties, one each.

From a large production standpoint the high point of the year came late in April when Lario Oil & Gas Company and Barnsdall Oil Company recompleted Wenrich 4, NE NE NW 23-32s-2e, an old Stalnaker sand well in the Oxford pool of eastern Sumner County. This well encountered either Simpson dolomite or siliceous lime at 2889 feet, was drilled to 2899 feet and completed for 136 barrels on the pump. Although this was a new producing horizon for the pool it did not attract major attention due to the low initial production. Almost two months later Shell Petroleum Corporation completed Barnes 2, SE SE SW SW 14-32s-2e, a 1288-barrel pumper from the new horizon at 2869 to 2905 feet. The major importance of the discovery was not realized until August 18, when a well made 7996 barrels initially from the new zone. During the next month several wells of large capacity were completed, the

Kansas Activity as of December 31, 1935

COUNTY	POOL	ACTIVE			INACTIVE		Total Operations
		Locations	Rigs	Drilling	Rigs	Drilling	
Barton	(Eberhardt)	0	1	0	0	0	1
Barton	Feist	0	0	1	0	0	1
Barton	Lanterman	0	0	1	0	0	1
Barton	Peter	1	0	3	0	0	4
Butler		1	1	10	0	0	12
Chase		0	0	0	0	1	1
Clark		0	0	1	0	0	1
Coffey		2	0	1	0	0	3
Cowley		2	4	10	0	0	16
Ellis	Bemis	0	0	1	0	0	1
Ellis	Schoenchen	0	0	1	0	0	1
Ellis	Yocimento	0	0	0	0	1	1
Ellsworth	Lorraine	0	0	5	0	0	5
Ellsworth	S. Lorraine	0	0	3	0	0	3
Greenwood		0	1	7	0	0	8
Harvey-McPherson	Nikkel-Hollow	0	1	2	0	0	3
Harvey	Sperling	1	1	2	0	0	4
Kingman-Pratt	Cunningham	0	0	1	0	0	1
Marion		0	1	0	0	0	1
McPherson	Chindberg	0	1	0	0	0	1
McPherson	McPherson	0	0	1	0	0	1
McPherson	Ritz	0	0	2	1	0	3
McPherson-Harvey	Schowalter	0	0	2	0	0	2
Reno	Abbeyville	0	0	1	0	0	1
Reno	Burrton	0	4	6	0	0	10
Reno	Hilger	0	0	2	0	0	2
Reno	Langdon	0	0	1	0	0	1
Reno	Yoder	0	0	2	0	0	2
Reno	(Miscellaneous)	0	0	2	0	0	2
Rice	Chase	1	2	3	0	0	6
Rice	Galt	0	0	1	0	0	1
Rice	Gouldner	0	0	2	0	0	2
Rice	Kessling	0	0	2	0	0	2
Rice	Orth	0	0	1	0	0	1
Rice	Ploog	0	0	3	0	0	3
Rice-Barton	Steckel	1	0	13	0	0	14
Rice	Stumps	0	0	3	0	0	3
Rice	Thode	0	0	1	0	0	1
Rice	Welch	0	0	3	0	0	3
Rice	(Miscellaneous)	0	0	1	0	1	2
Rooks	Dopita	0	0	1	0	0	1
Russell	Atherton	0	0	3	0	0	3
Russell	Bunker Hill	0	1	0	0	0	1
Russell	Dubuque	1	1	1	0	0	2
Russell	Eichman	1	1	3	0	0	5
Russell-Ellis	Fairport	0	0	2	0	0	2
Russell	Karst	0	0	3	0	0	3
Russell	Gorham	1	0	2	0	0	3
Russell	Hall	1	2	0	0	0	3
Russell	Neidenthal	0	0	1	0	0	1
Russell	Polcyn	3	1	1	0	0	5
Russell	Russell	0	0	2	0	0	2
Russell	Sellens	1	0	1	0	0	2
Russell	Sullivan	1	0	2	0	0	3
Russell	(Miscellaneous)	1	1	7	0	0	9
Rush	Otis	0	0	4	0	0	4
Sedgwick	Robbins	0	0	0	0	1	1
Sedgwick	Schulte	0	1	0	0	0	1
Sedgwick	(Miscellaneous)	1	0	1	0	1	3
Stafford	Richardson	0	0	1	0	0	1
Stafford	Riley	0	0	1	0	0	1
Stafford	St. John	1	0	0	0	0	1
Sumner	Churchill	0	1	1	0	0	2
Sumner	Oxford	0	1	12	0	0	13
Sumner	Wellington	0	1	5	0	0	6
Stevens		0	0	2	0	0	2
Trego	Wakeeney	0	0	1	0	0	1
Trego	(Miscellaneous)	0	0	1	0	0	1
Woodson		0	0	4	0	0	4
Wildcats		12	16	48	6	5	87
State totals		33	45	112	7	10	207

largest being Amerada Petroleum Corporation and Sunray Oil Company's Gassoway 1-A, SW NE SE SW 14-32s-2e, completed flowing at an initial rate of 37,466 barrels daily and establishing the record of being initially the largest well ever completed in Kansas. At the end of the year 25 wells in the new horizon had a daily potential rating of 275,117 barrels, production had been found in the overlying Layton sand and two wells were producing from that horizon with potential rating of 802 barrels per day.

Proved and Semi-Proved Work

There were 1365 first reports in Kansas during 1935, as compared with 1034 in 1934, an increase of 32.01 percent. First reports reached a high in the first quarter of 1935 when 371 were made. There were 324 new starts in the second quarter, 328 in the third, and 342 in the closing quarter. The 900 oil wells represents an increase of 48.53 percent over the 612 completed in 1934. Dry holes were up approximately the same amount, while gas wells increased 68.18 percent, by totaling 37 compared with 22 the previous year. One of the largest increases was in initial production, which totaled 841,981 barrels compared with 327,090 barrels in 1934. It is interesting to note that the total amount of footage drilled increased 54.16 percent over 1934 by reaching 3,706,814 feet in 1935.

As of December 31, 1935, there were a total of 207 operations in the state. These included 33 active locations, 45 active rigs, 112 active drilling wells, seven inactive rigs and 10 inactive drilling wells. On the same date, and included in the above figures, there were 87 wildcat operations of which 12 were active locations, 16 active rigs, 48 active drilling wells, six inactive rigs and five inactive drilling wells. Activity as of December 31, 1935, in the most active areas and sizes of wells by classes are shown in separate tables.

Expenditures by the Petroleum Industry

Estimating development in the proven and semi-proven areas at $7.50 per foot, to include the equipment necessary to place the average well on production, and in wildcat areas at $12.00 per foot on the same basis, the total expenditure would have been $30,572,857.50. Practically all production in the state is lifted artificially and it is estimated that the cost per barrel is not less than 15 cents. Upon this basis the cost of bringing oil to the surface would have been $7,800,000. Lease equipment, lease holds, rentals and other operating expenses undoubtedly would involve another $10,000,000 or a total expenditure of approximately $48,375,000 by the production and exploration branches of the industry. Pipe line construction is estimated to have cost approximately $3,500,000 so the industry's total bill in connection with exploration, production and the construction of transportation facilities probably was in excess of $51,500,000. Production during the year was approximately 52,800,000 barrels which was sold at an estimated average price of $1.00 per barrel to yield a gross income of $52,800,000 exclusive of natural gas and casinghead gasoline.

Forecast for 1936

It is not believed that the 1936 exploration campaign will reach the high of 1935 but that a large amount of the activity will be devoted to the development of the large number of pools discovered in 1935. A majority of these were one and two-well pools at the end of the year, due to lack of any pipe line outlet. For this reason many of them had not been permitted to produce a full 24 hours to definitely establish their initial capacity. On the basis of the very meager production information it is estimated that approximately 45,000,000 barrels of new reserves were discovered in Kansas during 1935. The principal discovery was the deeper production at the Oxford pool in eastern Sumner County, this area being estimated to have approximately 360 acres of productive territory and to yield 15,000 barrels per acre or an ultimate yield of 5,400,000 barrrels. As stated above, production during 1935 was approximately 52,800,000 barrels, It is estimated that crude oil stocks were reduced during the year approximately 4,000,000 barrels, indicating a total demand of 56,800,000 barrels.*

Demand for Kansas crude during 1936 should equal or slightly exceed that for 1935. New pipe line connections given shortly after the first of 1936 to a number of pools in the western part of the state should bring about a large number of completions in the new one and two well pools and should see exploratory work extended farther to the west and the northwest. Kansas operators have been able to maintain status of the state as the fourth major producing area in the United States only by a continuous development campaign, each year discovering new reserves but slightly in excess of the current demand. It is estimated that approximately 1500 wells will be completed during 1936 and that this development will involve approximately 4,500,000 feet of drilling.

*In the January 21, 1935 issue of The Oil Weekly, 1935 demand was estimated at 57,600,000 barrels.

Kansas 1935 Discovery Data

DISCOVERY WELLS

OPERATOR	Farm	Name of Pool	Well No.	Description	Completion Date	Total Depth	Initial Production	Producing Formation	Name of Producing Formation	Estimated Ultimate Production
Lario-Barnsdall	Wenrich	Oxford	4	NE NE NW 23-32s-2e	5- 1-35	2899	136	2889-2899	Arbuckle	5,500,000
Others										39,500,000
Total										45,000,000

Field Development and Outlook

Lack of Discoveries is Likely to Cause California Shortage

By W. E. GREEN, Staff Writer

ONE of the most conservative estimates as to the future in California was made in THE OIL WEEKLY of July 1, and 8, 1935, when J. Edmund Eaton, consulting geologist, reached the conclusion that at least 225,000,000 barrels of new production must be found annually unless a shortage is to be faced by 1940. Many authorities since the publication of these articles have found occasion to agree with Eaton in principle, although during the last few months of 1935, some have concluded there will be a shortage of oil in California, in two to three years, unless two or more outstanding fields are discovered before 1940. Some say by 1938. A few timidly say by the end of 1937. The best guess would be that there will be a real shortage of oil in California by the end of 1938 if no important discoveries are marked up by that time.

Many elements must be taken into consideration in reaching such conclusions. No one element governs. Any rule that would apply to the average decline of production of the average field in the Mid-Continent will not apply to the average field in California. The production decline in practically all fields in California is very slow. In fact, there are many wells from 25 to 40 years old which are producing from five to as much as 25 barrels a day. Producing sands are thicker than in the Mid-Continent. Such wells can be repeatedly cleaned out and worked over for a restored production.

But in spite of all the favorable characteristics of the producing fields in California, they must decline over a period and this decline is to be more marked in the next few years than during the past five.

Tanker shipments of crude oil and other petroleum products to points outside of California's natural trade territory can be expected to continue for the next few years at least. Japan must continue to buy its fuel oil from California, and should Japan build additional refineries, its crude requirements must come from California.

The same is true for the West Coast of Canada. Refining plants in Canada on the West Coast will continue to use California crude. It is cheaper and close by with low cost water transportation.

Certain California oil companies have close affiliations with other larger oil companies on the East Coast of the United States, operating their own tankers at a cost that is less than 40 cents a barrel of product moved through the Panama Canal. This is in spite of the present going charter rate of between 60 and 75 cents a barrel on oil from California to East Coast ports.

For these reasons, and others, it is felt sure California's average shipments will continue for years to come.

Stocks of petroleum products have declined for some years, but the tide turned in August, 1935, when the grand total started to climb after a low of 118,460,997 barrels had been reached at the end of July. At the close of November, total had climbed back to 126,250,063 barrels, against 167,453,000 barrels as of January 31, 1933. The largest increase was shown in light refinable crude. Storage of gasoline in California in 1935 was off about 1,000,000 barrels, against a decline of better than 3,300,000 barrels in 1934.

The peak storage in California of heavy crude oil, including fuel, was in February, 1930, when the total was 113,687,953 barrels, and the low was 63,566,000 barrels in June, 1935.

1935 Discoveries

Discoveries in 1935 in California were of so little importance they are hardly worthy of mention other than the new gas fields. The meaning of the new oil discoveries are still so uncertain, it is impossible to make an estimate of how much new oil the new areas can be expected to produce. The same is true of the new gas areas.

In August, Amerada Petroleum Corporation's F. D. L. 2, Section 15-2s-5e, Tracy district, San Joaquin County, was completed for 35,000,000 cubic feet of gas at 4063 feet, and second well was completed for 33,800,000 cubic feet of gas from the same zone. A third test of this area is under way.

The Semi-Tropic gas field in Kern County was discovered by Standard Oil Company of California in March of last year, and during the year, a total of 22 productive gas wells were completed with a total estimated production of 410,000,000 cubic feet. The proven area proved to be very narrow and numerous dry holes brought to an end the drilling campaign. As of January 1, only one well was drilling and it is doubted if any others will be started.

A small amount of gas has been developed at Marysville Buttes by Buttes Oil Fields, Inc., in Sutter County, near the San Francisco area. A third hole is drilling. These holes have had to penetrate volcanic formations, extremely hard drilling.

A small new oil field apparently has been found at El Segundo in Los Angeles County. Republic Petroleum Company's No. 1, Section 18-3s-14w, was placed on the pump September 2, 1935, for 400 barrels of 24.5 gravity oil, cut 14 percent. Bottom of hole was at 7405 feet. The well later developed into a pumper good for 175 barrels of 26.9 gravity oil, cut 12 percent. It was making 60,000 cubic feet of gas. A second well is drilling in the area, but the larger companies apparently are not excited over the find.

During the later part of the year, several companies tried to develop production in the eastern extension of the old Montebello field in Los Angeles County, due to development of production of 130 barrels of 35.6 gravity oil in Universal Consolidated Oil Company's N. 2 in February with bottom 5930 feet. The well was worked over later and produced 1920 barrels of 37 gravity. No other well has been able to develop worth while production in the new area.

In several instances efforts have been made to ex-

Principal Mid-Continent and Gulf Coast New Fields, Extensions and New Producing Horizons Discovered During 1935

tend the limits of several older fields in the state with indifferent success. Such an effort is underway between Mountain View and Edison in Kern County, but should a new area be proven, it will add comparatively little to the total reserves of the state.

Summarizing, 1935 drilling operations in California, although showing a marked increase over the previous year, showed no real results as to uncovering new reserves, but this so-called failure, only makes it necessary for drilling efforts to be considerably increased in 1936, in an effort to find new oil to take care of requirements already seen for the coming few years.

It is indicated that at least 1400 wells will be drilled in California in 1936.

New Strikes and Extensions Add to New Mexico Reserves

By H. H. KING, Staff Writer

NEW Mexico's position as one of the leading oil producing states was made more secure by new discoveries and extensions during 1935. All important developments centered in Lea County in the southeast corner of the state. New strikes and extensions to older producing areas added approximately 150,000,000 barrels of crude reserves.

The Monument field, which recorded its first completion in March from dolomite lime formation near the 3900-foot level, made the largest contribution to the state's crude reserves. Guided by geophysical data, Amerada Petroleum Corporation proved the structure by completing State 1-D, C NW SW 22-22s-36e, with an initial flow of 3600 barrels of 32-33 gravity oil after using acid in lime at 3850-3954 feet. There were 28 wells on production at the close of 1935, and no failures within or near the field. Completions extended production in a north and south direction approximately five miles, with an indicated width of more than three miles. Approximately 10,000 acres will likely prove productive on this structure, with recovery per acre forecasted at an average of about 12,000 barrels per acre. However, both figures are subject to revision.

Large companies predominate as lease owners in the Monument area. With few exceptions, locations are made at center of 40-acre units, and this wide spacing program stimulates drilling by reason of forcing progressive offsets. Between 150 and 200 wells will be completed in the field during 1936, according to the present outlook.

Productive limits of the Eunice, Hobbs and Cooper fields were substantially enlarged by routine development within the past year. The former added 92 wells in 1935 and important extensions were recorded to the north and south, and the structure was also proved for a greater width. The east flank of the Hobbs field was widened from one to two locations, and the majority of the 34 producers added within the year were drilled on the east edge of the structure. The Cooper field advanced to the north and south while adding 56 new oil producers, but lost its popularity with operators towards the close of 1935 because of water sweeping into all sections of the field.

Four widely scattered oil strikes scored by independents in sandy-lime belt in eastern Lea County and east of the established fields that produce from the dolomite lime horizon will lead to considerable development along this particular production trend. Extent of production around each of these new areas is highly speculative, as exploration work has not progressed sufficiently to make forecasts on productive acres and probable crude yield per acre. The four completions drilled by R. H. Henderson (Anderson-Pritchard Oil Corporation) et al, Amon G. Carter et al, Skelly Oil Company et al and N. G. Penrose, Arch Rowan and J. M. Rush et al ranged from 43 to 250 barrels initial.

The Maljamar field, oldest producing area in Lea County, added a shallow sand zone heretofore passed up in drilling for more prolific oil production from the 4000-foot lime horizon with the completion of Maljamar Oil & Gas Corporation's Baish 5, located on the discovery leasehold. This well was completed in December, flowing 90 barrels natural from sand at 2362-2371 feet.

Important New Reserves Found by Exploratory Work in Oklahoma

By FLOYD SWINDELL, Staff Writer

COMPARED to 1934 Oklahoma development showed increases ranging from 14.93 to 166.90 percent in field operations during 1935. Discovery of gusher production in the deep Simpson Group in the old Fox field of northwestern Carter County in the southern part of the state, probably was of the greatest significance in the exploratory phase, although this would be closely pushed for top ranking by discovery of large production in the Wilcox sand in the Fitts pool of southeastern Pontotoc County, and the extension of Wilcox sand production to what is known as the "Mansion Area" at Oklahoma City and discovery of gusher production in the Jesse pool, five and one-half miles east of the Fitts pool in Pontotoc County. Taking the situation as a whole it may be said that 1935 was the banner year since the industry started declining almost five years ago.

Field activities included 2378 first reports, an increase of 14.93 percent over 1934; 1469 oil wells, an increase of over 20 percent; 118 gas wells, an increase of more than 39 percent; 733 dry holes, an increase of nearly 20 percent; and total completions 2320, an increase of approximately 21 percent. Under the influence of large wells in the Fitts, Oklahoma City, and Edmond pools total initial production jumped from 989,927 barrels in 1934 to 2,625,744 barrels in 1935, an increase of 165 percent. Drilling footage for 1934 was 4,630,466 feet, compared to 5,896,763 feet for 1935, an increase of 27.35 percent. Average initial production was 1781 barrels per well, an increase of 122.07 percent and average total depth of completed wells was 2585 feet, an increase of 5.77 percent. That an active though conservative ex-

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ploratory campaign was carried on is evidenced by the fact that during the four quarters of the year wildcat drilling footage ranged from 7.59 percent to 9.52 percent of the total drilling footage and averaged 8.60 percent for the year.

From an exploratory viewpoint the year can be considered as highly successful. Of the 217 wildcats completed during the year 39 were oil wells, five were gas wells and 174 were dry holes, an overall success of 20.27 percent. The oil wells which may be classified as wildcat completions resulted in the discovery of 29 new pools, the finding of important production in deeper or shallower sands in several old pools and the extension of several other old pools in the same horizons. The first discovery of a new pool in 1935 came late in January when Bay Oil Corporation's Hudson 1, SW SW SE 14-28n-3e, in eastern Kay County, was completed for 127 barrels initially from Skinner sand at 2960 to 3020 feet. Several other attempts in the area were unsuccessful and the find is considered of minor importance.

Production had been discovered in the Altus area of Jackson County by Gypsy Oil Company in 1934. This production, although comparatively small, attracted wide attention due to the shallow depth and that part of Oklahoma was given a wide play in lease and royalty buying early in 1935.

Late in September British American Oil Producing Company encountered Wilcox sand at 6328 feet in its Mary Green 1, SE SW SW SW 23-12n-3w, slightly over a city block away from the Governor's Mansion and what is more probably an extension of the Oklahoma City pool than a discovery on a separate structure. The test was drilled to 6365 feet, still in highly saturated Wilcox sand and showed initially for about 6000 barrels. With the well just about ready for completion a swab was stuck in the hole and eventually the operator had to whipstock out of the casing and drill a new hole to the sand. It was not completed until early in January, 1936, although its importance should be credited to 1935.

Early in September, when several wells in the south part of the Fitts pool of southeastern Pontotoc County had proved rather small or had missed the Bromide formation through faulting, E. H. Moore et al's Atkins 3, SW NW NW 32-2n-7e, was carried on to a new sand immediately below the productive horizon in the McLish formation of Simpson age. Topping the sand at 4405 feet, the operators drilled ahead to 4475 feet, making production tests occasionally through the pressure control equipment. In the basal productive member of the McLish formation the well tested 186 barrels per hour. At 4475 feet, the total depth, it gauged 809 barrels in one hour through the pressure control equipment and probably would have done several hundred barrels per hour more had it been flowed through the casing. Evidently this was a new productive horizon and after much discussion it was generally agreed that the new zone is Wilcox sand. At the date this is being written three other wells have encountered the Wilcox sand, the latest having gauged better than 1650 barrels in one hour, flowing through pressure control equipment and against back pressure on the traps. Operators in the pool, with the realization that Wilcox sand production would be of major importance and with a rather limited allowable have attempted to forestall development of that horizon. Its development will call for twinning a large number of wells and in some cases as many as four wells may be located on one 10-acre tract. The corporation commission has specified that all zones from Viola lime downward to and including the McLish formation, may be produced through the same oil string. In the event, however, that it is desired to produce from Wilcox sand a separate oil string must be set. Since in most cases the productive horizons lying above it are still of major consideration, new wells will be drilled to produce the Wilcox. This should be one of the major developments of 1936.

During the early part of October Carter Oil Company et al reached a depth of 8088 feet in Williams 1, SW NE SW 27-2s-3w, in the old Fox pool of northwestern Carter County. While drilling on bottom and after cutting 1394 feet of Simpson formation, the surface equipment broke down and the tools were inactive for about six hours. When an attempt was made to resume drilling circulation was re-established but the tools could not be moved. After several weeks attempting to soak the pipe free with oil had been unsuccessful, 2000 gallons of acid was introduced into the hole. A reaction period of 48 hours was allowed, at the end of which time the drill pipe was raised 30 feet and the well blew out, flowing wild for almost a week at estimates ranging upward from 5000 to 15,000 barrels per day.

The well was killed with weighted mud and cotton seed hulls and subsequent attempts to re-establish circulation or move the pipe were unsuccessful although

Oklahoma 1935 Discovery Data

DISCOVERY WELLS

OPERATOR	Farm	Name of Pool	Well No.	Description	Completion Date	Total Depth	Initial Production	Producing Formation	Name of Producing Formation	Estimated Ultimate Production
Gypsy Oil	Grayson	Grayson	1	SW SW NW 13-6n-5e	2- 8-35	3816	624	3748-3816	Simpson	3,000,000
Stanolind-Amerada	Viets	East Lucien	1	SE NW NW SW 27-20n-2w.	3-15-35	5099	1,671	5073-5099	Wilcox	4,000,000
Carter Oil	Black	So. Keokuk	1	CNE SW 14-10n-6e	4- 3-35	4147	1,091	4127-4147	Misener	3,000,000
Wood Oil	Henry	West Seminole ext.	1	SW NW SW 28-9n-6e	4-17-35	4122	1,060	4109-4122	Wilcox	750,000
Sinclair Prairie	School Land	So. Langston	1	SE SE SE 36-17n-1w	4-24-35	5290	425	5255-5290	Simpson Dol.	250,000
Wofford Drilling et al	Thomas	Wofford	1	NW NW SE 8-6n-7e	4-24-35	3950	1,120	3945-3950	Wilcox	750,000
Amerada-Stanolind	Freidman	Stillwater	1	SE SE SE 28-19n-3e	8-14-35	4395	587	4301-4305	Wilcox	2,000,000
E. H. Moore et al	Atkins	Fitts	3	SW NW NW 32-2n-7e	9-11-35	4475	18,616	4405-4475	Wilcox	150,000,000
British-American	Green	N. Okla. City ext.	1	SE SW SW SW 23-12n-3w.	10- 2-35	6365	(*)	6328-6365	Wilcox	50,000,000
Continental Oil	McCarty	Jesse	1	SE SE NW 12-1n-7e	11-27-35	4633	12,170	4427-4633	McLish	125,000,000
Others										25,000,000
Total										363,750,000

(*)Not completed in 1935.

pressures as high as 3700 pounds per square inch were applied at the surface to the interior of the drill pipe and to the annular space. This find, if it proves as important as indicated, opens a wide area in that part of the state to development both for Simpson production and flank production in the Pennsylvanian series on some of the structures. Several important wildcat tests have yielded nice showings of oil and gas elsewhere in southern Oklahoma with the result that a wide leasing and royalty play has been under way for several months. It should be an area of major development during 1936.

The Jesse pool, five and one-half miles east of the Fitts pool in southeastern Pontotoc County, was discovered by Continental Oil Company at its McCarty 1, SE SE NW 12-1n-7e, on a structure which Continental mapped geologically and blocked before discovery of gusher production in the Fitts pool and before any clear understanding of the structural conditions in the latter area was developed. The well was completed during the week ending November 27, 1935, for an initial flow of 12,170 barrels from McLish formation at 4427 to 4633 feet. Three offsets are now under way and the area remains largely an unknown quantity except that it appears to be another structure similar to that at Fitts. Wildcatting in western Coal County took on major importance with the drilling of a deep test by Carter Oil Company et al at Thompson 1, C SL NE NW 34-2n-9e, on the Centrahoma Dome and in the southeastern part of a block of something over 12,000 acres. This test ran more than 700 feet higher than the nearest reference well on the upper horizons and created a spirited royalty campaign. A small showing of oil was encountered in Viola lime at which time excitement was at a pitch which boosted royalty prices to as high as $750 per acre. All horizons below Viola lime, which had been found productive in the Fitts and Jesse pool, were dry in this important wildcat. Contract depth is 7000 feet and at the time of writing this review it was drilling below 6800 feet with nothing of importance showing. The structure is large and another test may be drilled on it during 1936.

Oklahoma Activity as of December 31, 1935

POOLS OR DISTRICTS	ACTIVE			INACTIVE		Total Operations
	Locations	Rigs	Drilling	Rigs	Drilling	
Altus	1	0	4	0	2	7
Cement	1	0	3	0	1	5
Chickasha	0	0	1	0	2	3
Duncan	0	0	3	0	4	7
Fox-Graham	0	2	6	1	1	10
Gotabo	0	0	0	0	1	1
Healdton	0	0	2	0	1	3
Hewitt	0	0	1	0	1	2
Kilgore	0	0	0	0	1	1
Kingston	1	0	3	0	1	5
Knox	0	0	1	0	0	1
Lawton	0	0	9	0	1	10
Loco	0	0	4	0	2	6
Madill	0	0	1	0	1	2
Oscar-Seay	0	0	1	0	0	1
Robertson	0	1	0	0	0	1
Sayre	1	0	0	0	0	1
Tatums	0	0	1	0	0	1
Tipton	0	1	0	0	0	1
Wildcats	2	3	24	2	11	42
Oklahoma City	4	0	19	0	0	23
Britton (North)	0	0	3	0	0	3
Edmond	5	0	3	0	0	8
Moore	1	0	1	0	0	2
Seward	0	0	0	0	0	0
Wildcats	1	0	9	0	1	11
Blackwell	0	0	2	0	0	2
Billings	0	0	1	0	0	1
Crescent	0	0	1	0	0	1
Deer Creek	0	0	1	0	0	1
Lucien	0	1	4	0	0	5
Marshall	0	0	2	0	0	2
Miscellaneous	0	0	4	0	0	4
Orlando	0	0	1	0	0	1
Osage	3	3	27	0	0	33
Perry	0	0	1	0	0	1
Polo	1	1	4	0	0	6
So. Burbank	0	1	19	0	0	20
Tonkawa	0	0	2	0	0	2
Wildcats	0	1	12	0	0	13
East Ada	0	0	1	0	2	3
Allen	0	0	6	0	1	7
Beebe	0	0	1	0	1	2
Carr City	0	0	1	0	0	1
West Chandler	0	1	3	0	0	4
Conservation	0	0	3	0	0	3
Dill	0	0	2	0	2	4
East Oklahoma	0	2	9	1	9	21
Fish	0	1	0	0	0	1
Fitts	19	5	58	3	8	93
Gray	0	0	1	0	0	1
Grayson	0	0	0	0	0	0
Keokuk	0	0	4	0	0	4
So. Keokuk	0	2	3	0	1	6
Konawa	0	0	1	0	1	2
Laffoon	0	0	1	0	0	1
Little River	0	1	3	0	1	5
Miscellaneous	5	0	2	1	2	10
Okemah	0	0	0	0	1	1
Olympic	2	3	14	0	0	19
Paden	0	0	0	0	1	1
Sasakwa	1	1	7	0	1	10
Sasakwa Townsite	0	0	1	0	0	1
Seminole	1	0	6	0	0	7
East Seminole	3	0	1	0	0	4
West Seminole	0	0	2	0	0	2
Steedman	0	0	1	0	0	1
St. Louis	0	0	8	0	1	9
Wewoka	0	2	1	0	0	3
Wildcats	6	1	19	3	10	39
Tulsa-Cushing	5	11	65	1	5	87
Tulsa-Cushing Wildcats	0	0	1	0	0	1
Total	63	44	405	12	78	602

On December 31, 1935, there were 602 operations in the state. These included 63 active locations, 44 active rigs, 405 active drilling wells, 12 inactive rigs and 78 inactive drilling wells. Operations which have been shut down for long periods and which are known to be handicapped by financial difficulties, etc., are considered inactive. An accompanying table shows in detail the activity by pools or districts as of December 31, 1935.

Estimating development costs in proved and semi-proved areas at $7.50 per foot to include the total costs of placing the average well on production and in the wildcat areas at $12.00 per foot on the same basis, the development costs for wells completed during 1935 in Oklahoma would total approximately $46,500,000. Production during the year amounted to approximately 180,500,000 barrels. Since only a relatively small amount of this was obtained other than by pumping it is believed conservative to estimate lifting costs at 10 cents per barrel. On this basis the industry spent approximately $18,000,000

in bringing oil to the surface. Lease equipment, leaseholds and other expenses probably amounted to $10,000,000, bringing the expenditures for the year to a total of $75,000,000, a figure which is believed to be ultra-conservative. An appreciable amount of pipe line work was done but no basis for estimating its cost is available. Considering everything the industry probably spent close to $100,000,000, exclusive of refining, natural gasoline production and marketing.

Forecast for 1936

Areas which probably will receive major consideration during 1936 have been discussed in some detail elsewhere in this review. Summing up the probable areas in which development probably will be concentrated the following should be mentioned: The Wilcox sand zone in "Mansion Area" or North Oklahoma City Extension, the Wilcox sand at Fitts, The Bromide and probably later the Wilcox sand in the Jesse pool; the granite wash and Cisco Group in southwestern Oklahoma; and the deep zones as well as flank sands in the southern part of the state. It is estimated that 2650 wells will be completed and that approximately 7,000,000 feet of drilling will be involved in their completion.

Rodessa Outstanding in North Louisiana and Arkansas

By W. V. GROSS, Associate Editor

A REVIEW of field activities in North Louisiana and Arkansas for 1935 centers principally around Rodessa, which is the most important reserve found in the district in many years. It is impossible as yet to forecast the size of the field as it is still under active development, however, the field is ranked as one of the major fields of the nation. As a result of the finding of production in the Glen Rose formation of the Upper Trinity an active wildcatting campaign is assured for the district, and the play will also extend into extreme eastern Texas.

There was a general decline in field work in North Louisiana and Arkansas during 1935, when compared with 1934, but the total oil recovered was slightly in excess of that produced in 1934.

For the two districts there were 444 completions, as against 496 in the same territory the previous year; there were 155 oil producers completed in the year just ended, as against 182 in 1934. Total production of oil from fields of North Louisiana and Arkansas in 1935 equalled 20,724,000 barrels. In 1934 it amounted to 20,683,600 barrels. The only significant change in the areas considered from a general standpoint was in the matter of initial production, flush oil at Rodessa, largely, having been primarily responsible for a total initial production figure of 264,097 barrels from the two districts in 1935. This is compared with the 23,188 barrels of flush oil resulting from the 182 wells completed in 1934. Elsewhere in this issue of THE OIL WEEKLY may be found detailed figures showing field activities by fields.

A review of important events in North Louisiana during 1935 consists mostly of a review of happenings at Rodessa. While production figures for this field did not exist during the first seven months of 1935, in the last five months of the year it accounted for 1,296,700 barrels, or more than one ninth of the North Louisiana's total for the year. It was Rodessa, too, that was responsible for a jump from 14,543 barrels initial production aggregate in 1934 to 255,651 barrels aggregate initial from producers completed in 1935. The field's record for the year was 31 completions, 26 oil wells, five gas wells and no failures, quite an unusual showing for a Northern Louisiana field. Pine Island, it is true, exceeded Rodessa in the number of completions, being credited with 58 completions, 43 oil wells, six gas wells and nine failures. But Pine Island's gross initial from the 43 producers was only 2274 barrels. That of Rodessa's 26 oil wells was 249,025 barrels. (Rodessa's producers as of January 21, 1936, totaled 57.)

In the order of their respective occurrences, North Louisiana's key developments of 1935 may be summarized as follows:

The first week of the year brought a double extension at Pine Island. V. & F. Oil Company's 200-barrel Etchison 1, in 16-20n-15w, took the field limits three-quarters of a mile farther north, and Ark-La-Tex Oil & Gas Company's LeRosen 1, a 70-barrel producer in 15-20n-15w, extended the field an eight of a mile east.

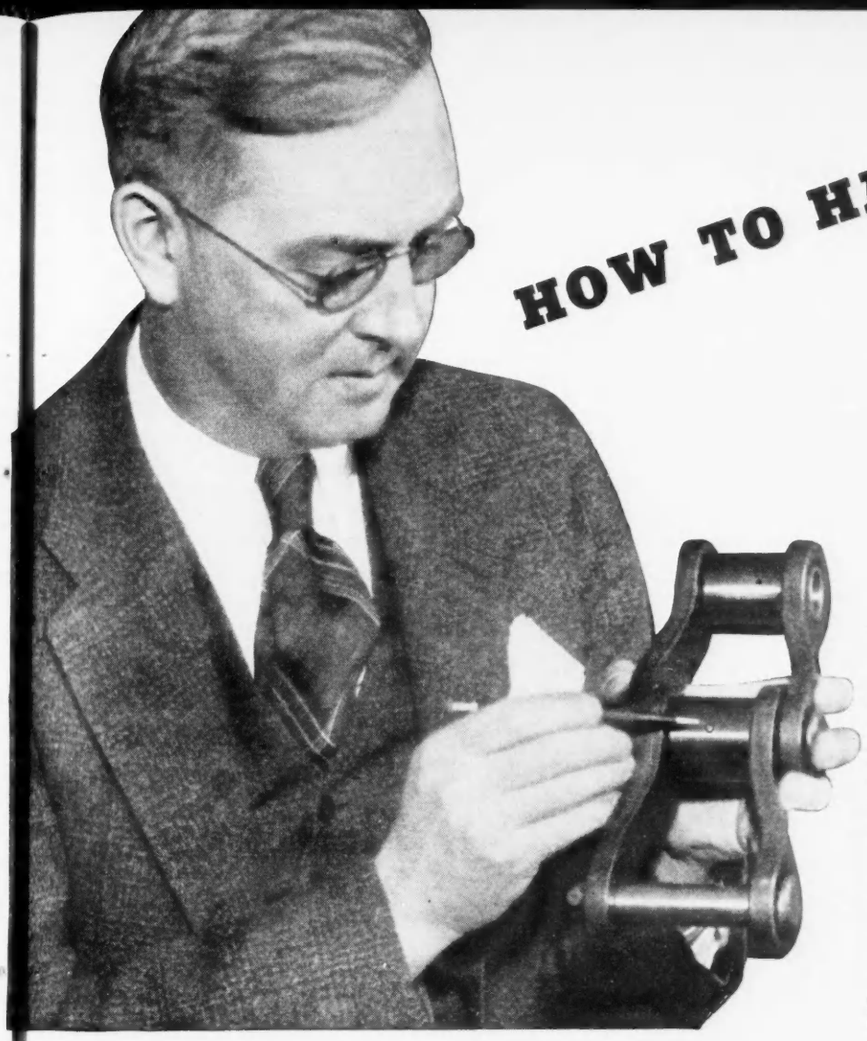
Rodessa, not an oil field until July of 1935, came to attention of operators as early as mid-April through a gas well which not only extended the field a half mile northwest but penetrated 410 feet of oolitic lime and sand of the Glen Rose, marking the greatest penetration of this formation in North Louisiana to that time. The well was United Gas Public Service Company's Foscue Unit 1, in 28-23n-16w, Caddo Parish. It gauged better than 71 million cubic feet from formations ranging from 5500 to 5950 feet. It was not thought at this time, mid-April, that before 1935 came to a close petroleum engineers and geologists would be placing Rodessa's ultimate oil recovery at figures running from 250 to 500 million barrels and placing the amount of productive acreage at from 15,000 to 20,000 acres.

The Glen Rose formation, furnishing much of the excitement during 1935 in North Louisiana, contributed a 35-million-cubic-foot gas well in Bossier Parish the first week in June to extend Sligo field three-quarters of a mile east. The well responsible for the extension was United Gas Company's R. V. Kerr Unit A-1, 24-17n-12w, completed at 4295 feet.

Discovery of Rodessa

"Oil At Rodessa" was the heading on the lead story of the North Louisiana section of the July 15 issue of THE OIL WEEKLY. It might well have been the heading for the lead story covering the entire year's activities in North Louisiana, for it was by far the most important development in that district. The first sentence of the weekly report in the above issue of THE OIL WEEKLY reads:

"Presence of oil in large commercial quantities below the gas producing horizon in the oolitic lime of the Glen Rose formation, Upper Trinity, in the Rodessa gas field, northwest Caddo Parish, was proved last week



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when United Gas Public Service Company's I. L. Young 1, SE SE 21-23n-16w, was making 100 barrels of light oil per hour from sandy oolitic lime of Glen Rose age at a total depth of 6048 feet."

Almost before the shock of Rodessa's discovery as an oil field had time to die out, a second well, completed the first week in September, extended the field two miles in a northeasterly direction in a very positive manner; i.e., with an initial production estimated at 11,000 barrels per day through casing. The well was Haynes Production Company's W. B. Lawton 1, bottomed at 6052 feet.

Completion of such a well naturally resulted in precipitation of a drilling campaign of considerable proportions.

In mid-November the value of Rodessa as a reserve was enhanced by discovery of the fact that the Dees sand, which is the lowest of the three gas producing horizons at Rodessa, was also capable of producing oil. Incidentally, the well which contributed this valuable piece of information also constituted another half-mile northeasterly extension. It was Vaughn Production Company's Hunter & Derryberry 1, 14-23n-16w, completed at 6026 feet for 125 barrels per hour.

December opened with Rodessa boasting of 20 producers and 3800 proved acres, following three extensions the last week in November, 1935. The three extensions consisted of an extension of one location eastward by Pelican Oil & Gasoline Company's Sexton Unit 2, 14-23n-16w, good for 108 barrels per hour at 6015 feet; an extension of one mile westward by R. W. Norton's Foscue 1, 20-23n-16w, good for 1116 barrels per day of Dees sand oil coming from a total depth of 6004 feet; and an extension of one mile to the northeast by the same operator's Tyson 1, 13-23n-16w, good for 65 barrels per hour at 6032 feet.

The following week Arkansas-Louisiana Gas Company's Rodessa Oil & Land Company 4, 14-23n-16w, extended the field another quarter-mile east, leading operators there to believe this section of the field, which had hitherto yielded only gas, might also be productive of Glen Rose oil. The well was completed at 6015 feet, flowing 125 barrels of 43 gravity oil per hour through an half-inch choke. By this time leasing had grown intense all along the Rodessa play, having already extended over into Texas (Cass County), and the field was put under an allowable of 500 barrels per well per day. Thirty-one rigs were running in Rodessa proper.

During the week ending December 13, another quarter-mile extension of the field to the west had been effected with successful completion of R. W. Norton's Levee Board 2, 21-23n-16w, good for 67 barrels per hour at 5990 feet.

During the last week in December producing limits of Rodessa were extended across the state line into Texas, R. W. Norton's Haywood 1, in Cass County, being brought in at 6002 feet in the Young horizon for 45 barrels per hour. This well contributed a half-mile west by south extension.

Rainbow City Extended

Rainbow City field held the spotlight of attention in Arkansas during most of the year, and the state's most important developments, from the angle of new oil, were in the neighborhood of that field. Most of them, incidentally, occurred during the first quarter of 1935. During the year, Rainbow City accounted for 35 completions, 20 oil wells, two gas wells, and 13 failures. Aggregate initial production from the commercial oil producers totaled 5530 barrels.

In the first week of 1935 Ouachita County, Arkansas, added a new field to the state's list of producers when T. J. Gaughan et al's Bragg 1 in 25-13-18 was completed as a hundred-barrel pumper in Nacatosh sand at 1394 feet. The following week Rainbow City field was extended a quarter of a mile east by completion of Lion Oil Refining Company's J. M. Gregory A-1, a producer which flowed 60 barrels of oil and 40 barrels of water from the red beds of the Lower Cretaceous. A month later Rainbow City's extension went in the opposite direction when T. L. James and Company's E. F. Gregory 1, a Taylor sand producer in 10-17-14, was rated at 95 barrels daily from 3390 feet. The field rocked along another month without an important event. Then it was extended a half-mile south and west by H. L. Hunt, Incorporated's J. D. Gregory 4, another Taylor sand well. Its initial production was 78 barrels of oil and 22 barrels of water on the pump. Gregory 4 is in the same section, township, and range with Gregory 1, mentioned above. During the week ending March 23, another southwest extension to Rainbow City was made by completion of Alice Sidney Oil Company's Gregory B-2, 10-17-14, in Taylor sand at 3377 feet. The well was good for 825 barrels daily through two-inch tubing.

The old El Dorado east field came into the limelight during the first week of June when re-completion of Earl Patterson's C. L. Smith 1, 29-17-14, Union County, called for drilling several offsets in an area that had been relatively idle for some time. Smith 1, it may be remembered, was the original oil completion in the east section of the field. It was likewise the first Ozan sand producer.

Michigan Production Establishes New High Mark in 1935

OPENING of one major oil reserve in Dundee horizon, highest crude output in the state's history, proving of a major gas sand reserve and better than a 50 percent increase in drilling.

Production averaged better than a million barrels a month for the year, hitting the peak in October with 1,700,000 barrels and an all-year total of about 16,000,000 barrels, compared to 10,600,000 barrels the previous year.

Completions totaled 602 with 299 oil wells, 99 gas wells and 204 failures. The state issued 700 drilling permits as against 444 the previous year and 569 in 1929, which was the record up to the past year. In 1934 there were 483 completions, 298 oil wells, 47 gas wells and 138 failures.

Oil well completions had an aggregate flush yield of 161,935 barrels as against 185,293 barrels the previous year. Gas wells totaled 569 million feet open flow as compared to 154 million the year before.

The Crystal-Ferris field, Montcalm County, was

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Field Development and Outlook

Principal Michigan Discoveries and Extensions during 1935

opened in late March and proved the only major new discovery of the year. The discovery well was followed by a record drilling campaign for this state with 160 completions in nine months in the field proper, of which 100 were completed as oil wells with a flush of 129,000 barrels. The completion average was better than 160 to 100, this including 21 gas wells in Belvidere township.

However, while the pool has been given an ultimate recovery as now defined of about eight to 10 million barrels, the Dundee lime pay is thinner than in any other Dundee field of the state. It averages probably less than five feet. During the late months of the year most operators adopted a policy of drilling to an oil show and then acidizing. Most wells drilled fully into the pay quickly started to load with water. Late in December the pool was producing from 10,000 to 12,000 barrels of brine daily with about 15,000 barrels of oil.

Most of the proved territory apparently had been defined as the year ended with not more than 30 to 50 proved area locations remaining to be drilled, part of these including edge locations. More than 70 percent of the wells were on the pump as the year ended.

Recovery from March to January totaled 3,500,000 barrels.

Wildcatting in 1935 brought a number of "interesting" plays for 1936 but produced no proved new reserves for drilling as the year opened. Oil in commercial quantities was found on tests drilled in Gibson township of Bay County, Richland township of Saginaw County (Traverse lime) and in Bushnell township of Montcalm County (Dundee).

Drilling chiefly centered in the Crystal district with the only other areas of major activity including Ogemaw County and Midland County, which carried from 15 to 20 strings of tools active most of the year.

The Porter-Yost field of Midland County, while seeing comparatively restricted drilling during the year, led all other areas in production with a total of 9,000,000 barrels. Since 1933 when the field was opened the pool has produced over 20,000,000 barrels and was producing 21,000 barrels daily as the year ended.

An active drilling campaign in the Millbrook-Hinton-Belvidere gas district of Mecosta and Montcalm Counties developed a reserve of between 20 and 40 billion cubic feet, with an open flow of 450,000,000 feet daily.

Promising but unproved gas pools were found in four other districts of Central Michigan. These probably will be developed this year.

Texas Continues to Dominate Field Activity and Production

By R. W. BYRAM, Staff Writer

THE State of Texas continued to be the largest operating and producing area of the nation during 1935, and in all probability will continue to hold this leadership for several years. During the year

Operating Changes in Texas During the First 11 Months of 1935

Data from the Oil Accounting Bureau of the Texas Railroad Commission

MONTH	Operators Reporting	Leases Reported	Acres	WELLS			Beginning Storage	Total Allowable	Reported Production	Allowable of Unreported Leases
				Flowing	Pumping	Total				
January	3,776	11,018	.....	19,277	33,294	52,571	3,456,377	31,886,665	30,978,441	272,367
February	3,788	11,292	1,739,839	19,874	33,374	53,248	3,626,989	29,388,449	28,343,882	220,338
March	3,853	11,416	.....	20,355	33,905	54,260	3,629,198	32,650,829	32,096,138	230,647
April	3,864	11,513	.....	20,659	34,377	55,036	3,680,656	31,383,763	30,734,107	223,357
May	3,938	11,674	.....	21,006	34,740	55,746	3,674,506	32,981,152	31,918,147	328,401
June	3,948	11,727	.....	21,277	34,463	55,740	3,688,243	32,481,277	31,389,472	401,145
July	3,999	11,833	.....	21,867	35,133	57,000	3,782,500	33,027,024	32,210,844	241,663
August	4,121	.....	1,919,299	22,213	35,416	57,629	3,628,903	32,171,926	31,424,873	135,791
September	4,138	11,909	.....	21,998	35,359	57,357	3,629,142	31,362,742	30,405,278	341,019
October	4,168	11,937	.....	22,489	35,626	58,115	3,617,241	32,376,108	31,467,095	260,411
November	....	11,963	2,109,587	22,836	35,979	58,815	3,638,963	32,558,245	31,613,685	260,757
Total	....	.....	.....	.....	.....	.....	.....	352,268,180	342,581,862	2,915,896
Daily Average	....	.....	.....	.....	.....	.....	.....	1,054,695	1,025,694	9,561

a number of important strikes were made in all districts of the state, and these will be discussed individually in following columns. During the year the Oil Accounting Bureau of the Texas Railroad Commission developed a comprehensive system of checking oil developments. Important statistics from this source will be elaborated upon in the following paragraphs and are in detail in an accompanying article, although they cover only the first 11 months of the year.

Figures from records of the Texas Railroad Commission covering the first 11 months of 1935 show that the total allowable for this period was 352,268,180 barrels, of which operators produced approximately 345,497,858 barrels. These figures on production do not include any allowance for excess production, commonly known to the industry as "hot" oil. THE OIL WEEKLY for 12 months shows a production yield of 377,747,000 barrels.

Judge Olin Culberson, director of the bureau, has refused to accept estimates of any sort when it was possible to obtain actual figures. The result of his efforts has produced accurate reports on production, movement, storage and refining of crude oil from Texas.

Because the production of excess oil is a felony under the statute, no accurate reports are available to the Bureau and have been consistently omitted from calculations made by this department. Since excess production has been confined largely to the East Texas field, and is reported to be declining steadily, its importance as a factor in making these calculations has diminished constantly.

The data from which these figures are derived are all taken from reports filed with the bureau by Texas operators, each report bearing the affidavit of the operator that all data is true and correct.

Producing Leases Increase

Recapitulation of the monthly reports prepared by the bureau show that there were 11,018 producing leases in Texas on January 31, 1935. By November 30, this number had increased to 11,936 leases, a total difference of 918 leases.

On February 28 there were 11,292 producing leases which included 1,739,839 acres; by August 31 there were 1,919,299 acres included in approximately 11,850 leases; on November 30 there were 11,963 leases including 2,109,587 acres. Thus the total acreage of productive oil land in Texas increased 369,748 acres from February 28 to November 30. Since these calculations were made during the three months listed only, monthly reports were not available.

There were 52,571 producing wells in the state on January 31, 1935, which had grown to 58,815 wells by the end of November, an increase of 6,244 wells. At the end of the first month of the year there were 19,277 flowing wells and 33,294 pumping wells. By the end of November there were 22,836 flowing wells and 35,979 pumpers. This meant an increase of 3,559 flowing wells and 2,685 pumping wells during the period.

The allowable fixed by the commission for the first 11 months of the year totaled 352,268,180 barrels, a daily average of 1,054,695 barrels. The February allowable of 29,388,449 barrels was the lowest for the year, average 1,049,587 barrels per day.

The total July allowable was 33,027,024 barrels 3,638,575 barrels more than was allowed in February, and an average of 1,065,388 barrels per day.

During the eleven months operators reported to the bureau the production of 342,581,862 barrels of crude, a daily average of 1,025,694 barrels.

To the reported production has been added the allowable of 2,915,896 barrels assigned to leases of operators who failed to report. The balance of 345,497,858 barrels, "reported production" plus "allowable of unreported leases," is shown as "indicated production," which averaged 1,034,424 barrels daily for the first 11 months of the year.

The highest reported production was in July, and amounted to 32,310,884 barrels. In February, lowest month of the period, the total was 28,343,882 barrels, 3,867,002 barrels below July.

Highest indicated production, 32,452,507 barrels, likewise was during July, and the February run was 28,564,220 barrels, a difference of 3,888,287 barrels.

The movement of crude was highest in July, when pipe lines received 32,110,563 barrels, 127,950 barrels were moved by tank car, 96,554 barrels were transported by truck, 65,305 barrels were moved by miscellaneous means. This resulted in a total movement of 32,400,362 barrels of crude in the state.

Storage reached a peak of 3,756,447 barrels in June, then dropped to 3,592,660 barrels in July.

A final check shows that the "indicated produc-

Operating Changes in Texas During the First 11 Months of 1935—(Continued)

Data from the Oil Accounting Bureau of the Texas Railroad Commission

Indicated Production	Under-produced Allowable	Runs to Pipe Lines EB Reports	OTHER DISPOSALS				Ending Storage	Runs by Pipe Lines	Net Under-Production	MONTH
			Tank Cars	Trucks	Misc.	Total				
31,250,808	635,857	30,636,587	.....	.....	.....	.....	3,567,046	.....	635,857	.....January
28,564,220	824,229	28,166,102	174,301	.....	.....	174,301	3,608,582	28,231,768	824,229	.....February
32,326,785	324,044	31,824,899	299,217	.....	.....	299,217	3,667,769	31,725,438	324,024	.....March
30,957,464	426,299	30,511,354	241,788	.....	.....	241,788	3,611,072	30,599,208	426,299	.....April
32,246,548	734,604	31,610,959	322,559	.....	.....	322,559	3,658,248	31,540,734	734,604	.....May
31,790,617	690,660	31,081,974	239,351	.....	.....	239,351	3,756,447	31,131,840	690,660	.....June
32,452,507	574,517	32,110,563	127,950	96,544	65,305	289,799	3,592,660	31,970,914	574,517	.....July
31,560,664	611,262	31,164,205	81,928	82 259	53,438	217,625	3,671,512	31,223,243	611,262	.....August
30,746,297	616,445	30,162,125	111,354	65,777	49,125	226,256	3,639,187	30,319,199	616,445	.....September
31,727,506	648,602	31,189,338	111,293	86,182	55,692	253,167	3,640,410	31,337,518	648,602	.....October
31,874,442	693,803	31,366,776	76,885	82,097	49,361	208,343	3,676,811	31,583,821	683,803	.....November
345,497,858	6,780,322	339,824,882	1,786,626	412,859	272,921	2,472,406	.....	309,663,683	6,770,302	.....Total
1,034,424	22,230	1,017,440	5,896	2,698	1,784	8,159	.....	1,021,992	20,270	....Daily Average

tion" was 6,770,302 barrels under the total allowable. If the latter figure is considered as "underproduction," then this daily average of 20,270 barrels would largely offset possible "excess production," or "hot" oil, which might have been run during the year.

This is interpreted by the bureau as an indication that the state of Texas has kept production within the allowable for the entire year.

New Discoveries Increase Gulf Coast Crude Reserves

By CHARLES LEYENDECKER, Staff Writer

IF there is no greater demand for Texas and Louisiana Gulf Coast crude oils than in 1935, estimated reserves of recoverable crude remaining in the ground as of January 1, 1936, will be sufficient to supply the demand for Gulf Coast crude oil for 17 years, or until 1952. This, as stated, is calculated on the basis of estimated recoverable reserves, and does not take into consideration the exceedingly probable discovery of additional reserves during the 17-year period.

It is estimated that 1,930,047,987 barrels of recoverable oil remain in proved reserves of the Texas and Louisiana Gulf Coast. The accumulative production through December 31, 1935, was 1,170,127,013 barrels, of which 109,040,500 barrels was produced in 1935.

Crude oil reserves of the Gulf Coast were augmented considerably during 1935 because of deeper and more extensive wildcat drilling. New discoveries make the outlook of the oil industry in the Coastal area for 1936 bright, and it is feasible that even a greater amount of crude reserves will be established in this 43,000,000-acre district.

Leasing in the Gulf Coast is by no means at a standstill. Exploration and commercial leases are being acquired every day. During the past year there was over 150 prospects taken for geophysical work and many carrying drilling obligations. Several of these prospects have been drilled and resulted in new oil or gas fields. The remaining prospects will be drilled in 1936. One major oil company has made three wildcat locations on its block and expects to make a number more before the first six months of this year is gone.

Drilling activity in the Texas and Louisiana Gulf Coast showed more than a six percent increase over 1934. The principal reason for the increase was the new discoveries. Several of the discoveries in 1935 will come in for increased drilling the coming year. For instance, the Anahuac field, Chambers County, which was discovered in March, 1935, through January 1, 1935, has completed 39 oil wells out of 42 drilled. With the drilling of the 42 wells, over 5000 acres has been proved and one well is to be drilled to each 20 acres. Also, leading geologists have estimated the total ultimate recovery from the field at 300,000,000 barrels and it is thought that this figure is very conservative.

The Hastings field, Brazoria County, which was discovered in December, 1934, but was on production in 1935, has 46 producing wells with an estimated 975 acres proved. One well is drilled to each 10 acres in this field. It is estimated that the total ultimate recovery from this field will be 100,000,000 barrels and this is also a conservative figure.

The new discoveries for the past year are too numerous to mention, but will without doubt cause an increased amount of drilling in 1936.

New fields discovered in the Louisiana Gulf Coast the past year and the first part of 1936 were: Bayou St. Denis (Lafitte) Jefferson Parish; Lake Hermitage, Plaquemines Parish; Tepetate field, Acadia Parish; St. Martinsville, St. Martin Parish; Jeanerette field, St. Mary Parish; Garden Island field, Plaquemines Parish; flank production at Port Barre, Willow Lake gas field, Cameron Parish; and the Bayou Mallet gas field, Acadia Parish. New sands were found at: Jennings, Acadia Parish; New Iberia, Iberia Parish; Choctaw, Iberville Parish; Lake Pelto, Terrebonne Parish; Sorrento, Ascension Parish; White Castle, Iberville Parish; English Bayou, Calcasieu Parish; Bosco, Acadia and St. Landry Parishes; Dog Lake, Terrebonne Parish. The major extensions to old fields were: Gillis field (English Bayou), Calcasieu Parish; Darrow field, Ascension Parish; Bosco field, Acadia and St. Landry Parishes; Bayou St. Denis, Jefferson Parish; and Port Barre, St. Landry Parish.

In the Texas Gulf Coast the new discoveries were: Katy field, Waller County; Anahuac, Chambers

Gulf Coast 1935 Discovery Data

County or Parish	Field	Date Discovered	Producing Horizon in Discovery Well	Producing Formation	Oil or Gas	Gravity	Proven Area	Completions		Probable Recovery Per Acre	Active Rigs 1-15-36
								Oil	Gas		
Chambers	Anahuac	3- 3-35	6850–7114	Lower Marginulina—Frio..	gas-oil	34.5	5000	39	0	60,000	6
Chambers	Turtle Bay	12- 4-35	6594–6618	Lower Marginulina—Frio..	oil	32	10	1	0	.....	1
Harris	South Houston..	6-13-35	4665–80	.....	gas-oil	26.8	200	9	0	25,000	2
Liberty	Hardin	7-23-35	7665–85	Eponidez Yeguaensis	oil	38.6	10	1	0	.....	0
Matagorda	Sheppard Mott..	11- 6-35	8853	Frio	oil	39.2	10	1	0	.....	0
Waller	Katy	2-15-35	6988–7440	Eponidez Yeguaensis	gas	Dist.	10	0	1	.....	0
Wharton	Picket Ridge....	6-24-35	4704–10	Lower Marginulina—Frio..	oil	25.5	320	4	0	3,125	2
Wharton	Withers	1- 4-36	5549–59	Frio	oil	26	10	1	0	.....	0
Acadia	Bayou Mallet...	1- 6-36	7190–98	Marginulina	gas	53.6	10	0	1	.....	0
Acadia	Tepetate	8-16-35	8313	Lower Marginulina	oil	35.5	400	4	1	.....	0
Cameron	Willow Lake....	12-24-35	7944–46	.....	gas	42.6	10	0	1	.....	0
Jefferson	Bayou St. Denis.	5-16-35	9558–72	Miocene	oil	34.9	400	3	0	50,000	2
Plaquemines	Garden Island...	9-11-35	4913–30	Miocene	oil	37.2	10	1	0	.....	1
St. Martin	St. Martinsville.	11- 4-35	5545–82	Miocene	oil	32	10	1	0	.....	3
St. Mary	Jearnette	12-23-35	7492–98	Miocene	oil	40.7	10	1	0	.....	0

County; Pickett Ridge, Wharton County; Hardin, Liberty County; Bryan Mound, Brazoria County; South Houston, Harris County; Turtle Bay, Chambers County; Withers, Wharton County and Sheppard Mott, Matagorda. New sands discovered were: Manvel, Brazoria County; Pierce Junction, Harris County; Batson, Hardin County; Orchard field, Fort Bend County; Dickinson, Galveston County; Hastings, Brazoria County; Van Vleck, Matagorda County; South Houston, Harris County. The extensions were: Louise, Wharton County; Manvel, Brazoria County; Thompson, Fort Bend County; Raccoon Bend, Austin County; Tomball, Harris County; Batson, Hardin County; Hastings (being developed), Brazoria County; Anahuac, Chambers County; Dickinson, Galveston County.

Even though there were nine discoveries in 1934 and nine in 1935, in the Texas Gulf Coast and five in 1934 and eight in 1935 in the Louisiana Gulf Coast, the outlook for 1936 in the Coastal area will offer a different picture at the end of the coming year.

South Texas Development Reached New Height in 1935

By EARL S. POST, Staff Writer

SOUTH Texas activity entered 1936 in the most spectacular fashion in the history of the district. The first half of January provided several new wildcat strikes of apparently major importance. One of the new fields may be the largest in the entire territory.

Reserves Are Enlarged

The heavy drilling campaign now underway is in keeping with a most successful year in 1935, when 45 new strikes brought to light reserves calculated at several hundred million barrels. In addition, more than a score of field extensions were provided to further increase the reserve figure.

No definite estimate can be made at this time on the full value of the 1935 wildcatting campaign in as much as several of the key fields promising the greatest potential possibilities have had insufficient development to even determine the extent of the producing area or the thicknss of the horizon. Out of the 45 new discoveries, 30 have only one to two wells completed, and eight more have less than five completions each. This is largely due to the lateness in the year in which the discoveries were made, controlled lease blocks or similar reasons. In most cases, however, they will come in for fair exploration during the new year. The most interesting strike of the new year was Amerada Petroleum Corporation's Michael producer at 5640 feet in the Austin chalk. The well, located in the Pearsall area of Frio County, flowed 110 barrels per hour on a 29-hour gauge through one-inch choke and is estimated at up to 800 barrels per hour open flow. The well apparently opens one of the major fields of the nation and possibly the largest in all South Texas territory. It is looked upon as being from a porous formation and not a crevice as was indicated by earlier work in the district.

Aside from being a big producer, it opens a new type of development for South Texas, this being deep cretaceous fields. The Luling-Darst Creek sector, only substational lime production in South Texas, provided recoveries of 35,000 to 40,000 barrels per acre. With such recoveries in mind, the stress of importance of this strike can be termed as conservative.

1936 Starts Big

But, the Mirando district, haven of oil operators due to high recovery, low operating and drilling costs, etc., was to the fore with a couple of discoveries and still more in the making during the first half of January, 1936. Cole Petroleum Company completed a five-barrel per hour Yegua sand producer in Benavides 92, just north of the Bruni townsite, Webb County, to open another oil producing spot on the large Cole structure. The new well is in sand at 2945-52 feet.

Duval County followed with a strike three-quarters mile east of the Seven Sisters field by Westheimer and Daube in Z. Campos 2, which is a producer in the Loma Novia sand at 2687 feet. This field gives promise of repeating the development in the Government Wells field, which is completely flanked on the east by Loma Novia production in the field bearing that name.

Rogers Oil & Gas Company has established Loma Novia sand production in the Hoffman gas district of Duval County this year in Sutherland 1, which is at 2885 feet.

John Clopton et al's Bennett and Roos 3, wildcat in Starr County, six miles west of the Samfordyce field, cored a heavy gas sand, broken with a few thin shale streaks at 2461-2626 feet, but drilled ahead to 4003 feet. It was plugged back for completion in the gas sand. This sand is considered to be the Frio and is about the same level as the Samfordyce field.

Wildcatting is certain to continue its pace through the year due to several reasons. Momentum has been gained through the aggressive year just closed. Many lease blocks have been assembled and are being financed through the sale of bottom hole contracts. In addition, a number of leases within the confines of the play are due to expire during the year, prompting tests by the holders.

Improved market conditions have had a great bearing on the development in the territory during the year. New pipe line outlets to deep water and the construction of additional deep water loading and storage facilities have aided in bringing a definite outlet for the added production. Even before the recent general price increase in crude, bonuses were being paid for oil from some properties by crude purchasing companies in effort to fulfill market demands.

Although Government Wells field has passed its peak and several other producing areas were on the decline, new production was sufficient to completely overbalance the loss. This was mainly accounted for by the Loma Novia field in which several hun-

dred producing oil wells were completed during the year. This field presented an entirely new picture in the Mirando area, which may lead to a tremendous increase in reserves. The Loma Novia field is a series of sand lenses flanking the Government Wells structure on the east and down dip from it. Other such lenses may be opened on other structures.

The Rio Grande Valley's first complete year as an oil producing district closed in 1935 with pleasing results. Samfordyce witnessed the completion of more than 100 oil producers, some of which were of fairly large proportions. Likewise, two new fields were discovered in Hidalgo County. Mestinas at 6700 feet and Mercedes at 7500 feet are the two deepest fields in South Texas. Both are in the Frio formation. Leasing, wildcatting and geophysical exploration were heavy in that sector during the year.

Corpus Area to Foreground

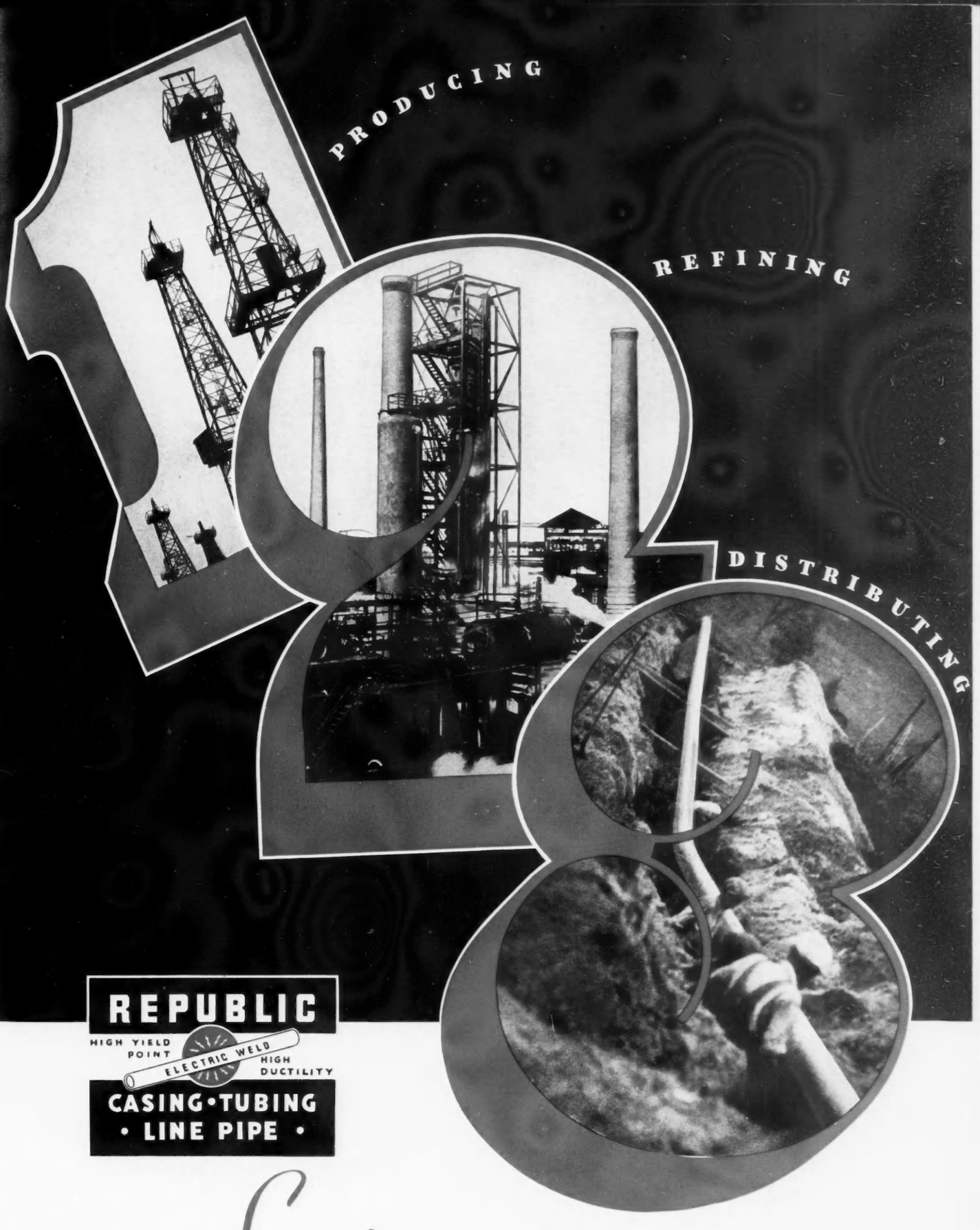
To the front, however, stepped the area in the immediate vicinity of Corpus Christi. Saxet field, more or less dormant for months, was revived when several wells were drilled in the old producing area and completed as excellent producers. Revised engineering methods enabled this success and brought dozens of fine producers to this field. Extensive drilling netted four new sands, attracted wildcatting which caused six more strikes, or ten in all for Nueces County. These strikes include two apparently important fields, Saxet Heights and Clara Driscoll.

[*Continued on page 161*]

South Texas 1935 Discovery Data

COUNTY	FIELD	DATE DISCOVERED	DISCOVERERS	PRODUCING HORIZON OF DISCOVERY WELL	AGE NAME	OIL or GAS	GRAVITY	APROX. PROVEN AREA	COMPLETIONS OIL	COMPLETIONS GAS	PROBABLE RECOVERY PER ACRE	ACTIVE RIGS 1-15-36
BEE	Beeville	9-22-35	G. T. Church	5810-31	Conroe	gas-oil	41.7	10	0	1	—	1
	Foley	2-8-35	Dirks Brothers	3404-45	Hockleyensis	gas	Distillate	10	0	1	—	0
	Plummer	8-30-35	Hynes & Daubert	2975-88	Pettus	gas	dry	10	0	1	—	0
	Rutledge	4-30-35	Worth Oil	3386-94	Pettus	oil	30.3	18	2	0	5,000	0
CALHOUN	Port Lavaca[1]	4-5-35	Steinberger Pet Co	6216-35	Marginulina	oil	41-45	480	12	1	13,000	0
DUVAL	Charmousca	9-30-35	Sun Oil Co.	1568-81	Mirando	oil	22	10	1	0	7,000	0
	Gray[2]	11-27-35	California Co	2555-69	Gov't Wells	gas	dry	10	0	1	—	0
	Magist	10-4-35	Margo Oil Corp.	2116-21	Gov't Wells	oil	22	10	1	0	4,500	2
	Loma Novia	1-1-35	Humble O & R	2785-90	Loma Novia	oil	25	5500	198	5	9,000	29
	Piedra Lumbre	9-5-35	Magnolia Pet Co.	2135-39	Gov't Wells	oil	23	10	1	0	7,500	—
	Piedra Lumbra[1]	10-5-35	Magnolia Pet Co	1959-73	Hockleyensis	oil	22	10	1	0	4,000	1
	Seven Sisters	5-12-35	Harvey & Henderson	2220-26	Hockleyensis	oil	20.5	250	4	0	5,000	4
	Seven Sisters[1]	6-4-35	Santa Clara	2475-81	Gov't Wells	oil	22	1450	38	0	10,000	19
FRIO	S.W. Pearsall[2]	8-17-35	Amerada Pet Co	5920-27	Buda	oil	39.6	10	1	0	20,000	0
GOLIAD	Hords Creek[1]	8-1-35	Brown & Wheeler	4529-38	Conroe	oil	47.6	20	2	0	2,800	1
GUADALUPE	S. Darst Creek	8-7-35	Clark et al	2372-2446	A. Chalk	oil	36	17	5	0	12,000	1
	Staples	10-7-35	Honadena	694-720	A. Chalk	oil	28	30	3	0	1,000	3
Hidalgo	Mercedes	4-24-35	Union Sulphur Co	7477-93	Frio	oil	46-52	1000	3	0	10,000	2
	Mestinas	7-30-35	Gulf States Dev Co	6658-6748	Frio	gas-oil	Distillate	10	0	1	—	2
Jackson	Maurity	6-18-35	Shell Pet Corp	5630-42	Frio	oil	27.6	10	1	0	6,000	0
Jim Wells	San Diego	12-2-35	R. Putnam	2963-76	Catahoula	gas	dry	10	0	1	—	1
Live Oak	Ft. Merrill	8-19-35	Mills Bennett	4694-4706	Yegua	oil	46	25	2	0	7,500	0
	McNeill[1]	6-21-35	J.O. Whittington	4977-5028	Pettus	oil	45	10	1	0	5,000	1
	N. Lucas	4-6-35	Smith & Story	5201-9	Yegua	gas-oil	44.2	50	4	0	5,000	0
McMullen	Loma Alta	5-29-35	Texas Oil Co	2195-2207	Hockleyensis	oil	21	20	2	0	4,500	1
Nueces	Baldwin	7-9-35	Magnolia	3874-79	Marine Miocene	oil	25.8°	40	2	0	4,500	1
	Baldwin[1]	8-9-35	Magnolia	4060-66	Marine Miocene	oil	24.8°	120	5	0	4,500	—
	Baldwin[1]	12-3-35	Magnolia	3223-38	Oakville	gas	dry	10	0	1	—	—
	Buckholt[2]	12-23-35	Sherman Nelson	3155-76	Pliocene	gas-oil		10	1	0	—	0
	Clara Driscoll	11-20-35	Santa Clara	3808-16	Miocene	oil	25.28°	10	1	0	10,000	1
	Saxet[1]	7-15-35	A.F. Holliday	5598-5602	Frio	gas-oil	58.9°	10	1	0	2,000	—
	Saxet[1]	9-8-35	A.F. Holliday	5785-92	Frio	gas-oil	Distillate	10	1	0	2,000	—
	Saxet[1]	9-16-35	A.F. Holliday	4720-24	Heterostegina	oil	26	10	1	0	6,000	—
	Saxet[1]	11-1-35	Shell	4542-50	Discorbis	oil	24	10	1	0	7,500	—
	Saxet Heights	11-2-35	J.K. Culton	4076-82	Marine Miocene	oil	25	80	5	0	9,500	12
San Patricio	Plymouth	4-21-35	Plymouth	5490-5508	Frio	oil	32	400	2	0	8,000	—
	Plymouth[1]	5-31-35	Hoop	5659-63	Frio	oil	34.2	2200	38	0	10,000	6
	Plymouth[1]	10-2-35	Magnolia	5907-11	Frio	oil	38	160	2	0	7,800	4
	Taft	12-11-35	George E. Smith	4879-4901	Heterostegina	oil	26	10	1	0	15,000	3
Travis	Kimbro	9-9-35	W.F. Billingslea	660-670	Serpentina	oil	38	10	1	0	1,750	0
Victoria	Placedo	4-16-35	Gillespie-Superior	6005-18	Frio	oil	35	20	2	0	6,500	2
	Placedo[1]	7-1-35	Smith-Gulf	4764-77	Heterostegina	oil		1250	18	2	8,500	7
	Warden[2]	10-5-35	Texas Co et al	4488-96	Frio	gas	dry	10	0	1	—	0
Webb	Carolina Texas[1]	5-25-35	Carolina Texas O & G Co	4974-5056	Mt Selman	gas-oil	42.5	10	0	1	—	2
	Lopez	6-27-35	Mills Bennet	2139-44	Mirando	oil	22	960	23	0	9,000	7

(1) after name of field means new sand has been discovered in present field.
(2) Means field has not been officially named. Approximate area refers only to sand discussed. Completions refer only to sands discussed.



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Statistics 1935

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World Crude Oil Production, by Countries, by Years

Complete Production History of World, in Barrels of 42 U. S. Gallons

(Sources.—*Mineral Resources of the United States*, 1918, 1930 and 1931; *Minerals Yearbook*, 1932, 1933 and subsequent years. Note: The figures of *Mineral Resources*, 1918, have been replaced here by figures from later reports, in cases where revisions have been made.)

YEAR	Rumania	United States	Italy	Canada	Russia except Sakhalin	Poland (Galacia)	Japan and Taiwan	Germany	India (British)	Netherland India	Peru	Mexico	Argentina	Trinidad
1857	[A]1,977	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1858	3,560	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1859	4,349	[A]2,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1860	8,542	500,000	[A]36	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1861	17,279	2,113,609	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1862	23,198	3,056,690	29	[A]11,775	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1863	27,943	2,611,309	58	82,814	[A]40,816	.....	.....	.....	.....	.....	.....	.....	.....	.....
1864	33,013	2,116,109	72	90,000	64,586	.....	.....	.....	.....	.....	.....	.....	.....	.....
1865	39,017	2,497,700	2,265	110,000	66,542	.....	.....	.....	.....	.....	.....	.....	.....	.....
1866	42,534	3,597,700	992	175,000	83,052	.....	.....	.....	.....	.....	.....	.....	.....	.....
1867	50,838	3,347,300	791	190,000	119,917	.....	.....	.....	.....	.....	.....	.....	.....	.....
1868	55,369	3,646,117	367	200,000	88,327	.....	.....	.....	.....	.....	.....	.....	.....	.....
1869	58,533	4,215,000	144	220,000	202,308	.....	.....	.....	.....	.....	.....	.....	.....	.....
1870	83,765	5,260,745	86	250,000	204,618	.....	.....	.....	.....	.....	.....	.....	.....	.....
1871	90,030	5,205,234	273	269,397	165,129	.....	.....	.....	.....	.....	.....	.....	.....	.....
1872	91,251	6,293,194	331	308,100	184,391	.....	.....	.....	.....	.....	.....	.....	.....	.....
1873	104,036	9,893,786	467	365,052	474,379	.....	.....	.....	.....	.....	.....	.....	.....	.....
1874	103,177	10,926,945	604	168,807	583,751	[A]149,837	.....	.....	.....	.....	.....	.....	.....	.....
1875	108,569	8,787,514	813	220,000	697,364	158,522	[A]4,566	.....	.....	.....	.....	.....	.....	.....
1876	111,314	9,132,669	2,891	312,000	1,320,528	164,157	7,708	.....	.....	.....	.....	.....	.....	.....
1877	108,569	13,350,363	2,934	312,000	1,800,720	169,792	9,560	.....	.....	.....	.....	.....	.....	.....
1878	109,300	15,396,868	4,329	312,000	2,400,960	175,420	17,884	.....	.....	.....	.....	.....	.....	.....
1879	110,007	19,914,146	2,891	575,000	2,761,104	214,800	23,457	.....	.....	.....	.....	.....	.....	.....
1880	114,321	26,286,123	2,035	350,000	3,001,200	229,120	25,497	[A]9,310	.....	.....	.....	.....	.....	.....
1881	121,511	27,661,238	1,237	275,000	3,601,441	286,400	16,751	20,219	.....	.....	.....	.....	.....	.....
1882	136,610	30,349,897	1,316	275,000	4,537,815	330,076	15,549	58,025	.....	.....	.....	.....	.....	.....
1883	139,486	23,449,633	1,618	250,000	6,002,401	365,160	20,473	26,708	.....	.....	.....	.....	.....	.....
1884	210,667	24,218,438	2,855	250,000	10,804,577	408,120	27,923	46,161	.....	.....	.....	.....	.....	.....
1885	193,411	21,858,785	1,941	250,000	13,924,596	465,400	29,237	41,360	.....	.....	.....	.....	.....	.....
1886	168,606	28,064,841	1,575	584,061	18,006,407	305,884	37,916	73,864	.....	.....	.....	.....	.....	.....
1887	181,907	28,283,483	1,496	525,655	18,367,781	343,832	28,645	74,284	.....	.....	.....	.....	.....	.....
1888	218,576	27,612,025	1,251	695,203	23,048,787	466,537	37,436	84,782	.....	.....	.....	.....	.....	.....
1889	297,666	35,163,513	1,273	704,690	24,609,407	515,268	52,811	68,217	[A]94,250	.....	.....	.....	.....	.....
1890	383,227	45,823,572	2,998	795,030	28,691,218	659,012	51,420	108,296	118,065	.....	.....	.....	.....	.....
1891	488,201	54,292,655	8,305	755,298	34,573,181	630,730	52,917	108,929	190,131	.....	.....	.....	.....	.....
1892	593,175	50,514,657	18,321	779,753	35,774,504	646,220	68,901	101,404	242,284	.....	.....	.....	.....	.....
1893	535,655	48,431,066	19,069	798,406	40,456,519	692,669	106,384	99,390	298,969	[A]600,000	.....	.....	.....	.....
1894	507,255	49,344,516	20,552	829,104	36,375,428	949,146	[B]173,000	122,564	327,218	688,170	.....	.....	.....	.....
1895	575,200	52,892,276	25,843	726,138	46,140,174	1,452,999	170,000	121,277	371,536	1,215,757	.....	.....	.....	.....
1896	543,348	60,960,361	18,149	726,822	47,220,633	2,443,080	237,000	145,061	429,979	1,427,132	[A]47,536	.....	.....	.....
1897	570,886	60,475,516	13,892	709,857	54,399,568	2,226,368	262,000	165,745	545,704	2,551,649	70,831	.....	.....	.....
1898	776,238	55,364,233	14,489	758,391	61,609,357	2,376,108	319,000	183,427	542,110	2,964,035	70,905	.....	.....	.....
1899	1,425,777	57,070,850	16,121	808,570	65,954,968	2,313,047	539,000	192,232	940,971	1,795,961	89,166	.....	.....	.....
1900	1,628,535	63,620,529	12,102	913,498	75,779,417	2,346,505	871,000	358,297	1,078,264	2,253,355	274,800	.....	.....	.....
1901	1,678,320	69,389,194	16,150	756,679	85,168,556	3,251,544	1,117,000	313,630	1,430,716	4,013,710	274,800	[A]10,345	.....	.....
1902	2,059,935	88,766,916	18,933	530,624	80,540,044	4,142,159	996,000	353,674	1,617,363	2,430,465	286,725	40,200	.....	.....
1903	2,763,117	100,461,337	17,876	486,637	75,591,256	5,234,475	1,209,000	445,818	2,510,259	5,770,056	278,092	75,375	.....	.....
1904	3,599,026	117,080,960	25,476	552,575	78,536,655	5,947,383	1,219,000	637,431	3,385,468	6,508,485	[B]290,000	125,625	.....	.....
1905	4,420,987	134,717,580	44,027	634,095	54,960,270	5,765,317	1,347,000	560,963	4,137,098	7,849,896	373,000	251,250	.....	.....
1906	6,378,184	126,493,936	53,577	569,753	58,897,311	5,467,967	1,564,000	578,610	4,015,803	8,180,657	531,000	502,500	.....	.....
1907	8,118,207	166,095,335	59,876	788,872	61,850,734	8,455,841	1,718,000	756,631	4,344,162	9,982,597	751,000	1,005,000	[A]101	.....
1908	8,252,157	178,527,355	50,966	527,987	62,186,447	12,612,295	1,871,000	1,009,278	5,047,038	10,283,357	945,000	3,932,900	11,472	[A]169
1909	9,327,278	183,170,874	42,388	420,755	65,970,350	14,932,799	1,887,000	1,018,837	6,676,517	11,041,852	1,411,000	2,713,500	18,431	57,143
1910	9,723,806	209,557,248	50,830	315,895	70,336,574	12,673,688	1,829,000	1,032,522	6,137,990	11,030,620	1,258,000	3,634,080	20,753	142,857
1911	11,107,450	220,449,391	74,709	291,096	66,183,691	10,519,270	1,737,000	1,017,045	6,451,203	12,172,949	1,465,000	12,552,798	13,119	285,307
1912	12,976,232	222,935,044	53,778	243,336	68,019,208	8,535,174	1,659,000	1,031,050	7,116,672	10,845,624	1,752,000	16,558,215	47,007	436,805
1913	13,554,768	248,446,230	47,198	228,080	62,834,356	7,818,130	1,940,000	[B]857,000	7,930,149	11,172,294	2,071,000	25,696,291	130,618	503,616
1914	12,826,579	265,762,535	39,849	214,805	67,020,522	[B]6,436,000	2,636,000	781,000	7,409,792	[B]11,422,000	1,837,000	26,235,403	275,500	643,533
1915	12,029,913	281,104,104	43,898	215,464	68,548,062	5,352,000	2,928,000	703,000	8,202,674	11,920,000	2,579,000	32,910,508	[B]513,000	750,000
1916	8,945,029	300,767,158	50,585	198,123	[B]65,817,000	6,587,000	2,963,000	656,000	8,491,137	12,547,000	2,593,000	39,817,402	867,000	928,581
1917	3,720,760	335,315,601	40,763	213,832	63,072,000	6,228,000	2,861,000	642,000	8,078,843	13,180,000	2,577,000	55,292,770	1,218,000	1,602,312
1918	[B]8,730,000	355,927,716	[B]35,000	304,741	27,168,000	6,032,000	2,441,000	270,000	[B]8,188,000	12,778,000	2,527,000	[B]63,828,000	1,353,000	2,082,068
1919	6,618,000	[B]378,367,000	35,000	[B]241,000	31,752,000	6,096,000	2,238,000	265,000	8,736,000	15,508,000	2,628,000	87,073,000	1,331,000	[B]1,841,000
1920	7,435,000	442,929,000	35,000	196,000	25,430,000	5,607,000	2,221,000	246,000	8,375,000	17,529,000	2,817,000	157,069,000	1,651,000	2,083,000
1921	8,368,000	472,183,000	32,000	188,000	28,968,000	5,167,000	2,233,000	274,000	8,734,000	16,958,000	3,699,000	193,398,000	2,036,000	2,354,000
1922	9,843,000	557,531,000	31,000	179,000	35,692,000	5,227,000	2,055,000	319,000	8,529,000	17,066,000	5,314,000	182,278,000	2,866,000	2,445,000
1923	10,867,000	732,407,000	34,000	170,000	39,147,000	5,402,000	1,804,000	346,000	8,406,000	19,870,000	5,699,000	149,585,000	3,400,000	3,051,000
1924	13,369,000	713,940,000	39,000	161,000	45,355,000	5,657,000	1,814,000	406,000	8,416,000	20,473,000	8,379,000	139,678,000	4,639,000	4,057,000
1925	16,650,000	763,743,000	61,000	332,000	52,448,000	5,960,000	1,915,000	541,000	8,274,000	21,422,000	9,232,000	115,515,000	6,336,000	4,387,000
1926	23,314,000	770,874,000	41,000	364,000	64,311,000	5,844,000	1,785,000	653,000	8,011,000	21,243,000	10,762,000	90,421,000	7,851,000	4,971,000
1927	26,368,000	901,129,000	47,000	477,000	77,018,000	5,342,000	1,789,000	663,000	8,032,000	27,459,000	10,127,000	64,121,000	8,630,000	5,380,000
1928	30,773,000	901,474,000	46,000	624,000	[E]84,745,000	5,492,000	1,944,000	630,000	8,741,000	32,118,000	12,006,000	50,151,000	9,070,000	7,684,000
1929	34,758,000	1,007,323,000	45,000	1,117,000	[E]99,507,000	4,988,000	2,023,000	704,000	8,747,000	39,279,000	13,422,000	44,688,000	9,391,000	8,716,000
1930	42,759,000	898,011,000	59,000	1,522,000	[E]125,555,000	4,904,000	2,047,000	1,222,000	8,887,000	41,729,000	12,449,000	39,530,000	9,002,000	9,419,000
1931	49,741,000	851,081,000	124,000	1,543,000	162,842,000	4,662,000	1,966,000	1,608,000	8,715,000	35,539,000	10,089,000	33,039,000	11,709,000	9,744,000
1932	53,815,000	785,159,000	208,000	1,044,000	154,367,000	4,116,000	1,630 000	1,608,000	8,817,000	39,001,000	9,899,000	32,805,000	13,139,000	10,126,000
1933	54,096,000	905,656,000	204,000	1,145,000	154,496,000	4,072,000	1,404,000	1,624,000	9,761,000	42,607,000	13,257,000	34,001,000	13,691,000	9,561,000
1934[1]	62,006,000	908,065,000	.....	55,000	167,748,000	3,697,000	1,799,000	2,267,000	8,997,000	42,292,000	14,144,000	38,167,000	14,045,000	10,894,000
1935[1]	61,400,000	994,754,000	.....	70,000	168,000,000	3,750,000	1,870,000	3,100,000	9,000,000	43,000,000	16,400,000	40,000,000	14,700,000	11,300,000
Total	663,588,176	17,593,197,719	2,013,718	33,853,770	3,364,219,907	243,458,251	69,665,035	31,359,041	253,528,365	679,718,621	184,675,855	1,776,701,162	137,955 001	115,445,391

[A] Actual numbers of barrels are shown prior to 1918, as reported in *Mineral Resources*, 1918; except in cases where revisions have been made in later reports, with such revisions being in thousands of barrels.

[B] Figures beginning with this year are shown in nearest thousand barrels, being from *Mineral Resources* of 1930, and 1931; and from *Minerals Yearbook* in subsequent years.

[C] Production of France in previous years credited to Germany.

[D] No more data available.

World Crude Oil Production, by Countries, by Years—(Continued)

Complete Production History of World, in Barrels of 42 U. S. Gallons

(Sources.—*Mineral Resources of the United States*, 1918, 1930 and 1931; *Minerals Yearbook*, 1932, 1933 and subsequent years. Note: The figures of *Mineral Resources*, 1918, have been replaced here by figures from later reports, in cases where revisions have been made.)

YEAR	Egypt	Persia	British Borneo (Sarawak And Brunei)	Algeria	Ecuador	Venezuela	France	England	Czecho-slovakia	Sakhalin	Colombia	Iraq	Bolivia	Other Countries	Total World	Percent Produced by U.S.
1857															1,977	
1858															3,560	
1859															6,349	31
1860															508,578	98
1861															2,130,917	99
1862															3,091,692	99
1863															2,762,940	94
1864															2,303,780	92
1865															2,715,524	92
1866															3,899,278	62
1867															3,708,846	90
1868															3,990,180	91
1869															4,695,985	90
1870															5,799,214	91
1871															5,730,063	91
1872															6,877,267	92
1873															10,837,720	91
1874															11,933,121	92
1875															9,977,348	88
1876															11,051,267	83
1877															15,753,938	85
1878															18,416,761	84
1879															23,601,405	84
1880															30,017,606	88
1881															31,992,797	86
1882															35,704,288	85
1883															30,255,479	78
1884															35,968,741	67
1885															36,764,730	59
1886															47,243,154	59
1887															47,807,083	59
1888															52,164,597	53
1889															61,507,095	57
1890															76,632,838	60
1891															91,100,347	60
1892															88,739,219	57
1893															92,038,127	53
1894															89,336,953	55
1895															103,691,200	51
1896															114,199,101	53
1897															121,992,016	50
1898															124,978,293	44
1899															131,146,663	44
1900															149,136,302	43
1901														20,000	167,440,644	41
1902														26,000	181,809,038	49
1903														36,000	194,879,298	52
1904														40,000	217,948,084	54
1905														30,000	215,091,483	63
1906														30,000	213,263,298	59
1907														30,000	263,956,355	63
1908														30,000	285,287,421	63
1909														20,000	298,708,724	61
1910														20,000	327,763,863	64
1911	[B]21,000													20,000	344,361,028	64
1912	214,000													20,000	352,443,145	63
1913	98,000	[B]1,857,000	[B]141,000											20,000	385,345,730	64
1914	753,000	2,910,000	318,000	[B]1,000										20,000	407,542,518	65
1915	212,000	3,616,000	392,000	4,000										10,000	432,033,623	65
1916	404,000	4,477,000	629,000	8,000										25,000	456,771,015	66
1917	943,000	7,147,000	542,000	9,000	[B]57,000	[B]120,000	C							29,000	502,889,881	67
1918	1,935,000	8,623,000	504,000	7,000	[E]60,000	333,000	[B]363,000							25,000	503,514,525	71
1919	1,517,000	10,139,000	596,000	5,000	[E]60,000	425,000	334,000	[B]2,000	[B]48,000					20,000	555,875,000	68
1920	1,042,000	12,230,000	1,020,000	4,000	[E]60,000	457,000	356,000	3,000	69,000					20,000	688,884,000	64
1921	1,255,000	16,673,000	1,411,000	3,000	[E]60,000	1,433,000	389,000	3,000	94,000	[B]2,000	[B]67,000			20,000	766,002,000	62
1922	1,188,000	22,247,000	2,849,000	9,000	[E]60,000	2,201,000	496,000	1,000	120,000	7,000	323,000			22,000	858,898,000	65
1923	1,054,000	25,230,000	3,940,000	9,000	87,000	4,201,000	494,000	1,000	74,000	9,000	425,000			24,000	1,015,736,000	72
1924	1,122,000	32,373,000	4,163,000	11,000	[E]100,000	9,042,000	497,000	2,000	76,000	80,000	445,000			24,000	1,014,318,000	70
1925	1,226,000	35,038,000	4,257,000	12,000	160,000	19,687,000	459,000	3,000	158,000	87,000	1,007,000			23,000	1,068,933,000	71
1926	1,188,000	35,842,000	4,942,000	9,000	214,000	36,911,000	478,000	2,000	150,000	181,000	6,444,000			17,000	1,096,823,000	70
1927	1,267,000	36,688,000	4,943,000	8,000	537,000	63,134,000	504,000	2,000	112,000	440,000	15,014,000	[B]338,000		13,000	1,262,582,000	71
1928	1,842,000	43,461,000	[G]5,223,000	8,000	1,084,000	105,749,000	512,000	1,000	94,000	677,000	19,897,000	713,000		15,000	1,324,774,000	68
1929	1,868,000	42,145,000	5,290,000	20,000	1,381,000	137,472,000	535,000	D	93,000	[E]1,134,000	20,385,000	798,000	H	38,000	1,485,867,000	68
1930	1,996,000	45,833,000	4,907,000	16,000	1,553,000	136,669,000	523,000	H	157,000	[E]1,805,000	20,346,000	909,000	[B]56,000	40,000	1,411,905,000	64
1931	2,038,000	44,376,000	3,854,000	D	1,762,000	116,613,000	527,000	D	134,000	2,734,000	18,237,000	900,000	25,000	54,000	1,373,656,000	62
1932	1,895,000	49,471,000	3,796,000	D	1,597,000	116,541,000	530,000	D	126,000	2,631,000	16,414,000	836,000	44,000	62,000	1,309,677,000	60
1933	1,663,000	54,392,000	4,490,000	D	1,620,000	117,720,000	562,000	D	122,000	2,700,000	13,158,000	1,200,000	112,000	68,000	1,443,382,000	63
1934[I]	1,479,000	52,665,000	4,621,000	.....	1,655,000	142,072,000	.....	.....	.....	2,400,000	17,341,000	7,192,000	.....	1,258,000	1,504,859,000	60
1935[I]	1,240,000	51,400,000	5,000,000	.....	1,700,000	149,000,000	.....	.....	.....	2,400,000	18,000,000	25,000,000	.....	1,700,000	1,622,784,000	61
Total	29,460,000	641,833,000	67,828,000	143,000	13,807,000	1,159,780,000	7,559,000	20,000	1,627,000	17,287,000	167,503,000	37,886,000	237,000	3,869,000	27,298,219,012	64

[E] Year ended September 30.
[F] Estimated.
[G] Beginning of production from Brunei.
[H] Less than one thousand barrels.

[I] For 1934 and 1935 figures for countries outside the United States are preliminary, being estimated in a report by V. R. Garfias and R. V. Whetsel, published in The Oil Weekly November 25, 1935, page 17.

United States Crude Oil Production, By States, by Years

Complete Production History of the Nation, in Barrels of 42 U. S. Gallons

(Sources.—*Mineral Resources* and *Minerals Yearbook*, except where otherwise indicated in footnotes. Note: the detailed figures for 1918 and earlier years are from *Mineral Resources* for those years, rather than from later reports, which are in thousands of barrels.)

Year	Pennsylvania	New York	Ohio	West Virginia	California	Kentucky	Tennessee	Colorado	Indiana	Illinois	Kansas	Texas	Missouri
1859	2,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1860	500,000	.....	B	B	.....	B	C	.....	.....	.....	.....	.....	.....
1861	2,113,609	.....	B	B	.....	B	C	.....	.....	.....	.....	.....	.....
1862	3.056,690	.....	B	B	.....	B	C	.....	.....	.....	.....	.....	.....
1863	2,611,309	.....	B	B	.....	B	C	.....	.....	.....	.....	.....	.....
1864	A2,116,000	A109	B	B	.....	B	C	.....	.....	.....	.....	.....	.....
1865	A2,397,792	A99,908	B	B	.....	B	C	.....	.....	.....	.....	.....	.....
1866	A3,453,792	A143,908	B	B	.....	B	C	.....	.....	.....	.....	.....	.....
1867	A3,213,408	A133,892	B	B	.....	B	C	.....	.....	.....	.....	.....	.....
1868	A3,500,272	A145,845	B	B	.....	B	C	.....	.....	.....	.....	.....	.....
1869	A4,046,400	A168,600	B	B	.....	B	C	.....	.....	.....	.....	.....	.....
1870	A5,050,315	A210,430	B	B	.....	B	C	.....	.....	.....	.....	.....	.....
1871	A4,997,025	A208,209	B	B	.....	B	C	.....	.....	.....	.....	.....	.....
1872	A6,041,466	A251,728	B	B	.....	B	C	.....	.....	.....	.....	.....	.....
1873	A9,498,035	A395,751	B	B	.....	B	C	.....	.....	.....	.....	.....	.....
1874	A10,489,867	A437,078	B	B	.....	B	C	.....	.....	.....	.....	.....	.....
1875	A8,436.013	A351,501	B	B	.....	B	C	.....	.....	.....	.....	.....	.....
1876	A8,610,150	A358,756	31,763	120,000	12,000	B_D	D	.....	.....	.....	.....	.....	.....
1877	A12,610,056	A525,419	29,888	172,000	13,000	B_D	D	.....	.....	.....	.....	.....	.....
1878	A14,556,924	A606,538	36,179	180,000	15,227	B_D	D	.....	.....	.....	.....	.....	.....
1879	A18,897,769	A787,407	29,112	180,000	19,858	B_D	D	.....	.....	.....	.....	.....	.....
1880	A24,986,526	A1,041,105	38,940	179,000	40,552	B_D	D	.....	.....	.....	.....	.....	.....
1881	A26,281,449	A1,095,060	33,867	151,000	99,862	B D	D	.....	.....	.....	.....	.....	.....
1882	23,368,000	6,685,000	39,761	128,000	128,636	B_D	D	.....	.....	.....	.....	.....	.....
1883	19,125,000	4,004,000	47,632	126,000	142,857	D4,755	D	.....	.....	.....	.....	.....	.....
1884	20,541,000	3,231,000	90,081	90,000	262,000	D4,148	D	.....	.....	.....	.....	.....	.....
1885	18,118,000	2,658,000	661,580	91,000	325,000	D5.164	D	.....	.....	.....	.....	.....	.....
1886	23,647,000	2,151,000	1,782,970	102,000	377,145	D4,726	D	.....	.....	.....	.....	.....	.....
1887	20,281,000	2,075,000	5,022,632	145,000	678,572	D4,791	D	76,295	.....	.....	.....	.....	.....
1888	14,700,000	1,789,000	10,010,868	119,448	690,333	D5,096	D	297,612	.....	.....	.....	.....	.....
1889	19,591,000	1,897,000	12,471,466	544,113	303,220	D5,400	D	316,476	33,375	1,460	500	48	20
1890	26,800,000	1,658,000	16,124,656	492,578	307,360	D6,000	D	368,842	63,496	900	1,200	54	278
1891	31,424,000	1,585,000	17,740,301	2,406,218	323,600	D9,000	D	665,482	136,634	675	1,400	54	25
1892	27,149,000	1,273,000	16,362,921	3,810,086	385,049	D6,500	D	824,000	698,068	521	5,000	45	10
1893	19,283,000	1,032,000	16,249,769	8,445,412	470,179	D3,000	D	594,390	2,335,293	400	18,000	50	50
1894	18,078,000	942,000	16,792,154	8,577,624	705,969	D1,500	D	515,746	3,688,666	300	40,000	60	8
1895	18,231,000	913,000	19,545,233	8,120,125	1,208,482	D1,500	D	438,232	4,386,132	200	44,430	50	10
1896	19,379,000	1,205,000	23,941,169	10,019,770	1,252,777	D1,680	D	361,450	4,680,732	250	113,571	1,450	43
1897	17,983,000	1,279,000	21,560,515	13,090,045	1,903,411	D322	D	384,934	4,122,356	500	81,098	65.975	19
1898	14,743,000	1,205,000	18,738,708	13,615,101	2,257,207	D5,568	D	444.383	3,730,907	360	71,980	546,070	10
1899	13,054,000	1,321,000	21,142,108	13,910,630	2,642,095	D18,280	D	390,278	3,848,182	360	69,700	669,013	132
1900	13,258,202	1,300,925	22,362,730	16,195,675	4,324,484	D62,259	D	317,385	4,874,392	200	74,714	836,039	E1,602
1901	12,625,378	1,206,618	21,648,083	14,177,126	8,786,330	D137,259	D	460,520	5,757,086	250	179,151	4,393,658	E2,335
1902	12,063,880	1,119,730	21,014,231	13,513,345	13,984,268	D185,331	D	396,901	7,480,896	200	331,749	18,083,658	E757
1903	11,355,156	1,162,978	20,480,286	12,899,395	24,382,472	D554,286	D	483,925	9,186,411	.....	932,214	17,955,572	E3,000
1904	11,125,762	1,113,264	18,876,631	12,644,686	29,649,434	D998,284	D	501,763	11,339,124	.....	4,250,779	22,241,413	E2,572
1905	10,437,195	1,117,582	16,346,660	11,578,110	33,427,473	D1,217,337	D	376,238	10,964,247	181,084	H3,750,000	28,136,189	E3,100
1906	10,256,893	1,243,517	14,787,763	10,120,935	33,098,598	D1,213,548	D	327,582	7,673,477	4,397,050	H3,627,000	12,567,897	E3,500
1907	9,999,306	1,212,300	12,20 ,448	9,095,296	39.748,375	D820,844	D	331,851	5,128,037	24,281,973	2,409,521	12,322,696	E4,000
1908	9,424,325	1,160,128	10,858,797	9,523,176	44,854,737	727,767	.....	379,653	3,283,629	33,686,238	1,801,781	11,206,464	E15,246
1909	9,299,403	1,134,897	10,632,793	10,745,092	55,471,601	639,016	.....	310,861	2,296,086	30,898,339	1,263,764	9,534,467	E5,750
1910	8,794,662	1,053,838	9,916,370	11,753,071	73,010,560	468,774	.....	239,794	2,159,725	33,143,362	1,128,668	8,899,266	E3,615
1911	8,248,158	952,515	8,817,112	9,795,464	81,134,391	472,458	.....	226,926	1,695,289	31,317,038	1,278,819	9,526,474	E7,995
1912	7,837,948	874,128	8,969,007	12,128,962	87,269,000	484,368	.....	206,052	970,009	28,601,308	1,592,796	11,735,057	.....
1913	7,917,302	948,191	8,781,468	11,567,299	97,788,525	524,568	.....	188,799	956,095	23,893,899	2,375,029	15,009,478	F
1914	8,170,335	938,974	8,536,352	9,680,033	99,775,327	502,441	.....	222,773	1,335,456	21,919,749	3,103,585	20,068,184	F
1915	7,838,705	887,778	7,825,326	9,264,798	86,591,535	437,274	.....	208,475	875,758	19,041,695	2,823,487	24,942,701	F
1916	7,592,394	874,087	7,744,511	8,731,184	90,951,936	J1,202,569	J677	197,235	769,036	17,714,235	8,738,077	27,644,605	F
1917	7,733,200	879,685	7,750,540	8,379,285	93,877,549	J3,088,160	J12,196	121,231	759,432	15,776,860	36,536,125	32,413,287	.....
1918	7,407,812	808,843	7,285,005	7,866,628	97,531,997	J4,367,968	J8,374	143,286	877,558	13,365,974	45,451,017	38,750,031	.....
1919	8,137,000	851,000	7,736,000	8,327,000	101,183,000	9,278,000	15,000	121,000	972,000	11,960,000	33,048,000	79,366,000	F
1920	7,438,000	906,000	7,400,000	8,249,000	103,377,000	8,738,000	14,000	111,000	945,000	10,774,000	39,005,000	96,868,000	.....
1921	7,418,000	988,000	7,335,000	7,822,000	112,600,000	9,013,000	12,000	108,000	1,158,000	10,043,000	36,456,000	106,166,000	F
1922	7,425,000	1,000,000	6,781,000	7,021,000	138,468,000	8,973,000	10,000	97,000	1,087,000	9,383,000	31,766,000	118,684,000	F
1923	7,609,000	1,250,000	7,085,000	6,358,000	262,876,000	8,069,000	8,000	86,000	1,043,000	8,707,000	28,250,000	131,023,000	F
1924	7,486,000	1,440,000	6,811,000	5,920,000	228,933,000	7,407,000	10,000	445,000	935,000	8,081,000	28,836,000	134,522,000	.....
1925	8,097,000	1,695,000	7,212,000	5,763,000	232,492,000	6,759,000	24,000	1,226,000	829,000	7,863,000	38,357,000	144,648,000	.....
1926	8,961,000	1,956,000	7,272,000	5,946,000	224,673,000	6,274,000	43,000	2,768,000	808,000	7,760,000	41,498,000	166,916,000	.....
1927	9,526,000	2,242,000	7,593,000	6,023,000	231,196,000	6,719,000	60,000	2,831,000	852,000	6,994,000	41,069,000	217,389,000	.....
1928	9,956,000	2,603,000	7,015,000	5,661,000	231,811,000	7,359,000	46,000	2,774,000	1,052,000	6,462,000	38,596,000	257,320,000	.....
1929	11,820,000	3,377,000	6,743,000	5,574,000	292,534,000	7,775,000	19,000	2,358,000	981,000	6,319,000	42,813,000	296,876,000	.....
1930	12,803,000	3,647,000	6,486,000	5,071,000	227,329,000	7,389,000	21,000	1,656,000	994,000	5,736,000	41,638,000	290,457,000	.....
1931	11,892,000	3,363,000	5,327,000	4,472,000	188,830,000	6,456,000	6,000	1,545,000	840,000	5,039,000	37,018,000	332,437,000	.....
1932	12,412,000	3,508,000	4,644,000	3,878,000	178,128,000	6,287,000	5,000	1,136,000	806,000	4,673,000	34,848,000	312,478,000	F
1933	12,624,000	3,181,000	4,235,000	3,815,000	172,010,000	4,608,000	5,000	919,000	737,000	4,244,000	41,976,000	402,609,000	F
1934 M	14,478,000	3,804,000	4,234,000	4,095,000	174,305,000	4,860,000	.....	1,139,000	838,000	4,479,000	46,482,000	381,516,000	.....
1935 N	15,849,000	4,225,000	4,082,000	3,908,000	207,898,000	5,313,000	.....	1,548,000	762,000	4,352,000	54,987,000	391,483,000	.....
Total	898,278,883	103,890,222	571,356,386	392,375,710	4,418,865,983	139,468,941	319,247	32,187,370	121,744,584	421,094,380	778,738,155	4,188,308,005	54,077

GENERAL FOOTNOTE: In addition to the figures shown above, *Mineral Resources* gives the following information: Tennessee and Kentucky had small showings of oil shortly after the discovery of oil in the Pennsylvania district in 1859 and in the years 1886-1889; Texas in 1886, 1888 and 1889, and Indiana in 1888 and 1889. No record of the amount of production during these years is available.

[A] Pennsylvania and New York separated in years 1864-1881 by aid of *Arnold and Kemnitzer* and *Mineral Resources*.

[B] *Arnold and Kemnitzer* give the following additional estimates which are not shown by the official *Mineral Resources*: Ohio, 1860-1875, 200,000 barrels; West Virginia, 1860-1875, 2,800,000 barrels; Kentucky, 1860-1882, 161,000 barrels.

[C] Little production but no record available.

[D] Small production in Tennessee included with Kentucky.

[E] In 1900-1911 Michigan shown with Missouri.

[F] Included with unclassified.

[G] Insignificant production of Utah (mostly used as fuel) shown with Wyoming.

[H] Figures for Oklahoma and Kansas for years 1905-1906 shown to-

United States Crude Oil Production, by States, by Years *(Continued)*

Complete Production History of the Nation, in Barrels of 42 U. S. Gallons

(Sources.—*Mineral Resources* and *Minerals Yearbook*, except where otherwise indicated in footnotes. Note: the detailed figures for 1918 and earlier years are from *Mineral Resources* for those years, rather than from later reports, which are in thousands of barrels.)

Oklahoma	Wyoming	Louisiana	Montana	Arkansas	New Mexico	Michigan	Mississipoi	[K]Utah	[L]Alaska	Unclassified	Tota United States	Total Value At Wells	[I]Average Value Per Bbl.	Year
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,000	$ 32,000	$20.00	..1859
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	500,000	4,800,000	9.60	..1860
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,113,609	1,035,668	0.52	..1861
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,056,690	3,209,525	1.05	..1862
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,611,309	8,225,663	3.15	..1863
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,116,109	20,896,576	8.15	..1864
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,497,700	16,459,853	6.59	..1865
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,597,700	13,455,398	3.75	..1866
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,347,300	8,066,993	2.40	..1867
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,646,117	13,217,174	3.62	..1868
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,215,000	23,730,450	5.60	..1869
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5,260,745	20,503,754	3.90	..1870
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5,205,234	22,591,180	4.40	..1871
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6,293,194	21,440,503	3.75	..1872
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9,893,786	18,100,464	1.80	..1873
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10,926,945	12,647,527	1.15	..1874
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8,787,514	7,368,133	0.97	..1875
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9,132,669	22,982,822	2.52	..1876
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	13,350,363	31,788,566	2.38	..1877
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15,394,868	18,044,520	1.17	..1878
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	19,914,146	17,210,708	0.86	..1879
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	26,286,123	24,600,638	0.94	..1880
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	27,661,238	25,448,339	0.92	..1881
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30,349,397	23,631,165	0.78	..1882
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	23,450,244	25,790,252	1.10	..1883
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	24,218,229	20,595,966	0.85	..1884
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	21,858,744	19,198,243	0.88	..1885
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	28,064,841	19,996,313	0.71	..1886
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	28,283,290	18,877,094	0.67	..1887
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	27,612,357	17,947,620	0.65	..1888
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	35,164,078	26,963,340	0.77	..1889
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	45,823,364	35,365,105	0.77	..1890
30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	54,292,419	30,526,553	0.56	..1891
80	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	50,514,280	25,906,463	0.51	..1892
10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	48,431,553	28,950,326	0.60	..1893
130	2,389	.....	.....	.....	.....	.....	.....	.....	.....	.....	49,344,526	35,522,095	0.72	..1894
37	3,455	.....	.....	.....	.....	.....	.....	.....	.....	.....	52,891,886	57,632,296	1.09	..1895
170	2,878	.....	.....	.....	.....	.....	.....	.....	.....	.....	60,959,940	58,518,709	0.96	..1896
625	3,650	.....	.....	.....	.....	.....	.....	.....	.....	.....	60,475,450	40,874,072	0.69	..1897
.....	5,475	.....	.....	.....	.....	.....	.....	.....	.....	.....	55,363,769	44,193,359	0.80	..1898
.....	5,560	.....	.....	.....	.....	.....	.....	.....	.....	.....	57,071,338	64,603,904	1.13	..1899
6,472	5,450	.....	.....	.....	.....	E	.....	.....	.....	.....	63,620,529	75,989,313	1.19	..1900
10,000	5,400	.....	.....	.....	.....	E	.....	.....	.....	.....	69,389,194	66,417,335	0.96	..1901
37,100	6,253	548,617	.....	.....	.....	E	.....	.....	.....	.....	88,766,916	71,178,910	0.80	..1902
138,911	8,960	917,771	.....	.....	.....	E	.....	.....	.....	.....	100,461,337	94,694,050	0.94	..1903
1,366,748	11,542	2,958,958	.....	.....	.....	E	.....	.....	C	.....	117,080,960	101,175,455	0.86	..1904
[H]8,264,000	8,454	8,910,416	.....	.....	.....	E	.....	.....	.....	.....	134,718,085	84,157,399	0.62	..1905
[H]18,091,000	7,000	9,077,528	.....	.....	.....	E	.....	.....	.....	.....	126,493,288	92,444,735	0.73	..1906
43,524,128	[G]9,339	5,900,221	.....	.....	.....	E	.....	G	C	.....	166,095,335	120,106,749	0.72	..1907
45,798,795	[G]17,775	5,788,874	.....	.....	.....	E	.....	G	.....	.....	178,527,355	129,079,184	0.72	..1908
47,859,218	[G]20,056	3,059,531	.....	.....	.....	E	.....	G	.....	.....	183,170,874	128,328,487	0.70	..1909
52,028,718	[G]15,430	6,841,395	.....	.....	.....	E	.....	G	.....	.....	209,557,248	127,899,688	0.61	..1910
56,069,637	[G]186,695	10,720,420	.....	.....	.....	E	.....	G	C	.....	220,449,391	134,044,752	0.61	..1911
51,427,071	[G]1,572,306	9,263,439	.....	.....	.....	K	.....	G	F	4,000	222,935,451	164,213,247	0.74	..1912
63,579,384	2,406,522	12,498,828	.....	.....	F	K	.....	C	F	11,000	248,446,387	237,121,388	0.95	..1913
73,631,724	3,560,375	14,309,435	.....	.....	.....	K	.....	C	F	8,000	265,762,743	214,125,215	0.81	..1914
97,915,243	4,245,525	18,191,539	.....	.....	.....	K	.....	C	F	14,000	281,103,839	179,462,890	0.64	..1915
107,071,715	6,234,137	15,248,138	44,917	.....	.....	K	.....	C	F	8,000	300,767,453	330,899,868	1.10	..1916
107,507,471	8,978,680	11,392,201	99,399	.....	.....	K	.....	C	F	10,300	335,315,601	522,635,213	1.56	..1917
103,347,070	12,596,287	16,052,600	69,323	.....	.....	K	.....	C	F	7,943	355,927,716	703,543,961	1.98	..1918
86,911,000	13,172,000	17,188,000	90,000	.....	F	K	.....	C	F	12,000	378,367,000	760,266,000	2.01	..1919
106,206,000	16,831,000	35,714,000	340,000	F	F	.....	.....	F	F	13,000	442,929,000	1,360,745,000	3.07	..1920
114,634,000	19,333,000	27,103,000	1,509,000	10,473,000	F	.....	.....	.....	F	12,000	472,183,000	814,745,000	1.73	..1921
149,571,000	26,715,000	35,376,000	2,449,000	12,712,000	F	.....	.....	.....	F	13,000	557,531,000	895,111,000	1.61	..1922
160,929,000	44,785,000	24,919,000	2,782,000	36,610,000	F	.....	.....	.....	F	18,000	732,407,000	978,430,000	1.34	..1923
173,538,000	39,498,000	21,124,000	2,815,000	46,028,000	98,000	.....	.....	F	F	13,000	713,940,000	1,022,683,000	1.43	..1924
176,768,000	29,173,000	20,272,000	4,091,000	77,398,000	1,060,000	4,000	.....	F	F	12,000	763,743,000	1,284,960,000	1.68	..1925
179,195,000	25,776,000	23,201,000	7,727,000	58,332,000	1,666,000	94,000	.....	F	F	8,000	770,874,000	1,447,760,000	1.88	..1926
277,775,000	21,307,000	22,818,000	5,058,000	40,005,000	1,226,000	439,000	.....	F	F	7,000	901,129,000	1,172,830,000	1.30	..1927
249,857,000	21,461,000	21,847,000	4,015,000	32,096,000	943,000	594,000	.....	F	F	6,000	901,474,000	1,054,880,000	1.17	..1928
255,004,000	19,314,000	20,554,000	3,980,000	24,917,000	1,830,000	4,528,000	.....	F	F	7,000	1,007,323,000	1,280,417,000	1.27	..1929
216,486,000	17,868,000	23,272,000	3,349,000	19,702,000	10,189,000	3,911,000	.....	F	F	7,000	898,011,000	1,070,200,000	1.19	..1930
180,574,000	14,834,000	21,804,000	2,830,000	14,791,000	15,227,000	3,789,000	.....	F	F	7,000	851,081,000	550,630,000	0.65	..1931
153,244,000	13,418,000	21,807,000	2,457,000	12,051,000	12,455,000	6,910,000	.....	F	F	16,000	785,159,000	680 460,000	0.87	..1932
182,251,000	11,227,000	25,168,000	2,273,000	11,686,000	14,116,000	7,942,000	.....	F	F	30,000	905,656,000	608,000,000	0.67	..1933
180,107,000	12,556,000	32,869,000	3,603,000	11,182,000	16,864,000	10,603,000	.....	.....	.....	51,000	908,065,000	904,825,000	1.00	[M]1934
185,354,000	13,656,000	49,899,000	4,590,000	10,986,000	20,574,000	15,243,000	.....	.....	.....	45,000	994,754,000	.....	.....	[N]1935
3,906,079,457	400,943,573	595,704,911	54,171,639	418,969,000	96,248,000	54,057,000	.....	.....	.....	340,243	17,593,195,766	[O]20,415,809,168	[O]1.24	Total

gether by *Mineral Resources;* here divided by aid of *Arnold and Kemnitzer.*

[I] Figures on average price per barrel for years 1859-1875 taken from *Arnold and Kemnitzer;* remainder from *Mineral Resources.*

[J] Kentucky and Tennessee figures in years 1916-1918 obtained with aid of *Arnold and Kemnitzer* and *Mineral Resources.*

[K] *Arnold and Kemnitzer* show for Utah the following data: 1907-1923, estimated 37,000 barrels; 1924, 3,000 barrels; 1925, 4,000 barrels; 1926, 525 barrels; 1927, 2,500 barrels; 1929, estimated, 3,500 barrels; total, 1907-1929, 50,525 barrels.

[L] *Arnold and Kemnitzer* show for Alaska the following data; 1904-1919, estimated, 56,000 barrels; 1920, 11,000 barrels; 1921, 10,000 barrels; 1922-1928, estimated, 73,000 barrels; total 1904-1928, 150,000 barrels.

[M] From Bureau of Mines final summary on petroleum for 1934.

[N] Bureau of Mines figures for first 11 months; December estimated by The Oil Weekly, with aid of weekly reports of American Petroleum Institute.

[O] Exclusive of value of 1935 production, no official figure being available for that year.

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United States Crude Oil Production

BY STATES AND DISTRICTS

Monthly Crude Oil Production in the United States, by States, in 1935

(In barrels of 42 U. S. gallons)

(Source.—"Monthly Petroleum Statement," issued by United States Bureau of Mines, Department of the Interior.)

State or District	January	February	March	April	May	June	July	August	September	October	November	December [A]	Total 1935	Total 1934
Arkansas	882,000	844,000	970,000	924,000	965,000	935,000	936,000	917,000	878,000	930,000	890,000	915,000	10,986,000	11,184,000
California	15,511,000	13,959,000	15,431,000	14,174,000	15,342,000	16,709,000	17,418,000	18,604,000	19,210,000	20,152,000	20,294,000	21,094,000	207,898,000	174,305,000
Huntington Beach	1,212,000	1,092,000	1,230,000	1,164,000	1,189,000	1,342,000	1,322,000	1,339,000	1,283,000	1,340,000	1,300,000	1,370,000	15,183,000	15,006,000
Kettleman Hills	2,104,000	1,898,000	2,021,000	1,588,000	1,675,000	1,851,000	1,906,000	2,229,000	2,642,000	3,104,000	3,319,000	3,266,000	27,603,000	21,390,000
Long Beach	1,930,000	1,843,000	2,035,000	1,956,000	2,027,000	2,232,000	2,402,000	2,443,000	2,435,000	2,407,000	2,391,000	2,385,000	26,486,000	22,788,000
Santa Fe Springs	1,200,000	1,057,000	1,202,000	1,108,000	1,135,000	1,176,000	1,241,000	1,384,000	1,644,000	1,698,000	1,629,000	1,690,000	16,164,000	14,663,000
Rest of State	9,065,000	8,069,000	8,943,000	8,358,000	9,316,000	10,108,000	10,547,000	11,209,000	11,206,000	11,603,000	11,655,000	12,383,000	122,462,000	100,458,000
Colorado	116,000	117,000	152,000	150,000	123,000	115,000	124,000	134,000	138,000	130,000	122,000	127,000	1,548,000	1,139,000
Illinois	332,000	295,000	370,000	338,000	382,000	358,000	377,000	379,000	370,000	391,000	369,000	391,000	4,352,000	4,479,000
Indiana	59,000	56,000	65,000	61,000	66,000	64,000	63,000	71,000	66,000	68,000	60,000	63,000	762,000	838,000
Kansas	4,246,000	4,177,000	4,821,000	4,550,000	4,736,000	4,607,000	4,865,000	4,613,000	4,550,000	4,785,000	4,385,000	4,652,000	54,987,000	46,482,000
Kentucky	445,000	405,000	438,000	445,000	464,000	427,000	467,000	454,000	433,000	462,000	424,000	449,000	5,313,000	4,860,000
Louisiana	3,435,000	3,180,000	3,605,000	3,804,000	4,140,000	4,121,000	4,312,000	4,375,000	4,371,000	4,755,000	4,721,000	5,080,000	49,899,000	32,869,000
Gulf Coast	2,727,000	2,540,000	2,921,000	3,096,000	3,406,000	3,435,000	3,596,000	3,617,000	3,545,000	3,807,000	3,759,000	3,887,000	40,336,000	23,794,000
Rest of State	708,000	640,000	684,000	708,000	734,000	686,000	716,000	758,000	826,000	948,000	962,000	1,193,000	9,563,000	9,075,000
Michigan	1,028,000	1,019,000	1,063,000	1,179,000	1,234,000	1,235,000	1,257,000	1,337,000	1,448,000	1,649,000	1,452,000	1,342,000	15,243,000	10,603,000
Montana	374,000	301,000	325,000	332,000	384,000	380,000	416,000	426,000	408,000	409,000	412,000	423,000	4,590,000	3,603,000
New Mexico	1,663,000	1,402,000	1,661,000	1,639,000	1,675,000	1,680,000	1,804,000	1,822,000	1,762,000	1,822,000	1,806,000	1,838,000	20,574,000	16,864,000
New York	357,000	319,000	336,000	350,000	360,000	336,000	372,000	369,000	348,000	370,000	353,000	355,000	4,225,000	3,804,000
Ohio	340,000	312,000	345,000	356,000	363,000	336,000	349,000	311,000	355,000	367,000	318,000	330,000	4,082,000	4,234,000
Central and East	264,000	248,000	266,000	274,000	278,000	256,000	264,000	234,000	281,000	286,000	252,000	260,000	3,163,000	3,258,000
Northwestern	76,000	64,000	79,000	82,000	85,000	80,000	85,000	77,000	74,000	81,000	66,000	70,000	919,000	976,000
Oklahoma	15,216,000	13,730,000	15,648,000	15,653,000	16,215,000	15,528,000	16,435,000	15,357,000	14,934,000	15,950,000	15,319,000	15,369,000	185,354,000	180,107,000
Oklahoma City	4,949,000	4,201,000	4,754,000	5,013,000	5,071,000	4,805,000	4,895,000	4,365,000	4,012,000	4,348,000	4,033,000	3,838,000	54,284,000	62,829,000
Seminole	3,708,000	3,449,000	4,035,000	3,970,000	4,182,000	4,040,000	4,306,000	3,985,000	3,951,000	4,083,000	3,920,000	3,998,000	47,627,000	38,183,000
Rest of State	6,559,000	6,080,000	6,859,000	6,670,000	6,962,000	6,683,000	7,234,000	7,007,000	6,971,000	7,519,000	7,366,000	7,533,000	83,443,000	79,095,000
Pennsylvania	1,304,000	1,214,000	1,348,000	1,380,000	1,414,000	1,285,000	1,376,000	1,305,000	1,251,000	1,356,000	1,306,000	1,310,000	15,849,000	14,478,000
Tennessee	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Texas	31,971,000	30,158,000	33,551,000	31,686,000	33,083,000	32,695,000	33,297,000	32,847,000	32,064,000	32,996,000	32,833,000	34,302,000	391,483,000	381,516,000
Gulf Coast	5,263,000	4,727,000	5,296,000	5,124,000	5,213,000	5,116,000	5,287,000	5,229,000	5,300,000	5,571,000	5,876,000	6,218,000	64,220,000	60,155,000
West Texas	4,561,000	4,260,000	4,735,000	4,523,000	4,612,000	4,502,000	4,634,000	4,600,000	4,509,000	4,727,000	4,801,000	4,855,000	55,319,000	50,272,000
East Texas	14,257,000	13,808,000	15,319,000	14,131,000	14,954,000	15,144,000	15,279,000	15,198,000	14,524,000	14,720,000	14,140,000	14,834,000	176,308,000	181,540,000
Panhandle	1,827,000	1,730,000	1,885,000	1,801,000	1,894,000	1,729,000	1,774,000	1,665,000	1,673,000	1,686,000	1,797,000	1,918,000	21,379,000	20,280,000
Rest of State	6,063,000	5,633,000	6,316,000	6,107,000	6,410,000	6,204,000	6,323,000	6,155,000	6,058,000	6,292,000	6,219,000	6,477,000	74,257,000	69,269,000
West Virginia	333,000	308,000	332,000	336,000	349,000	317,000	339,000	317,000	314,000	357,000	301,000	305,000	3,908,000	4,095,000
Wyoming	1,103,000	963,000	1,023,000	1,066,000	1,155,000	1,206,000	1,274,000	1,174,000	1,204,000	1,207,000	1,107,000	1,174,000	13,656,000	12,556,000
Salt Creek	539,000	499,000	536,000	530,000	539,000	499,000	522,000	515,000	510,000	527,000	516,000	526,000	6,258,000	.....
Rest of State	564,000	464,000	487,000	536,000	616,000	707,000	752,000	659,000	694,000	680,000	591,000	648,000	7,398,000	.....
Other [B]	.....	4,000	4,000	4,000	4,000	4,000	4,000	4,000	5,000	4,000	4,000	4,000	45,000	51,000
United States Totals	78,715,000	72,763,000	81,488,000	78,427,000	82,454,000	82,338,000	85,485,000	84,816,000	84,109,000	88,160,000	86,476,000	89,523,000	994,754,000	908,065,000

[A] Estimated by THE OIL WEEKLY with aid of American Petroleum Institute Weekly reports for December.
[B] Includes Tennessee, Missouri and Utah.

Arkansas Crude Oil Production, by Fields, by Years

Complete Production History of State, in Barrels of 42 U. S. Gallons.

(Sources.—Annual Volumes of *Mineral Resources* and *Minerals Yearbook*.)

YEAR	Bradley La Fayette County	Champagnolle Union County	El Dorado Union County	Irma Nevada County	Lisbon Union County	Miller County	Mount Holly Union County	Smackover Ouachita-Union Counties	Stephens Ouachita-Columbia Counties	Urbana Union County	Unclassified	Total Arkansas
1920	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[A]
1921	.....	.....	10,473,000	.....	.....	.....	.....	.....	.....	.....	.....	10,473,000
1922	.....	.....	10,592,000	.....	.....	.....	.....	2,107,000	13,000	.....	.....	12,712,000
1923	.....	.....	5,830,000	[B]	.....	.....	.....	30,048,000	[B]732,000	.....	.....	36,610,000
1924	.....	.....	4,760,000	450,000	.....	.....	.....	40,000,000	818,000	.....	.....	46,028,000
1925	.....	.....	4,247,000	334,000	.....	.....	.....	72,144,000	673,000	.....	.....	77,398,000
1926	52,000	.....	2,722,000	763,000	2,125,000	.....	.....	52,063,000	607,000	.....	.....	58,332,000
1927	44,000	[C]	[C]2,433,000	774,000	1,054,000	.....	.....	35,201,000	499,000	.....	.....	40,005,000
1928	31,000	3,522,000	2,456,000	536,000	566,000	.....	.....	24,569,000	416,000	.....	.....	32,066,000
1929	24,000	2,651,000	1,987,000	409,000	492,000	.....	[D]	[D]18,991,000	363,000	.....	.....	24,917,000
1930	19,000	1,486,000	1,424,000	390,000	399,000	.....	34,000	15,405,000	319,000	236,000	.....	19,702,000
1931	5,000	944,000	1,186,000	266,000	288,000	.....	4,000	11,504,000	272,000	322,000	.....	14,791,000
1932	.....	623,000	1,182,000	234,000	143,000	.....	.....	9,510,000	213,000	146,000	.....	12,051,000
1933	.....	488,000	1,231,000	264,000	95,000	100,000	.....	8,882,000	127,000	499,000	.....	11,686,000
1934 [E]	.....	516,300	886,200	298,850	135,050	.....	.....	8,055,450	225,950	.....	1,294,300	11,412,100
1935 [E]	.....	887,050	811,550	[F]216,850	75,250	.....	.....	7,436,150	[F]142,650	.....	1,571,300	11,140,800
Total	175,000	11,117,350	52,220,750	4,925,700	5,372,300	100,000	38,000	335,915,600	5,420,600	1,203,000	2,865,600	419,353,900

[A] Small production only, being first for the state, reported in Southwestern Ouachita County.
[B] Irma included with Stephens.
[C] Champagnolle included with El Dorado.
[D] Mount Holly included with Smackover.
[E] All figures for year calculated by THE OIL WEEKLY from weekly reports of the American Petroleum Institute.
[F] Nevada and Stephens included with "Unclassified" after August 31, 1935.

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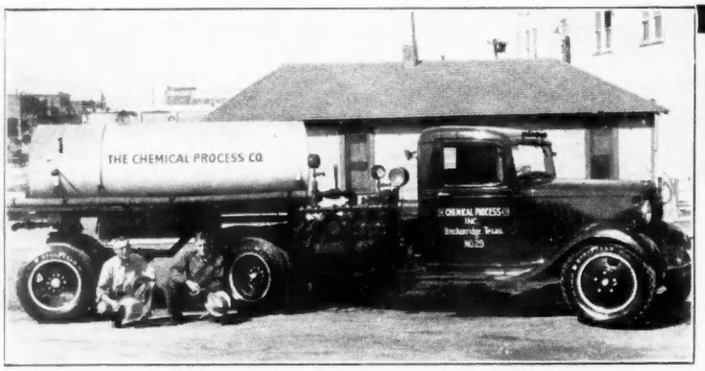

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United States Crude Oil Production

BY STATES AND DISTRICTS

Monthly Crude Oil Production in the United States, by States, in 1935

(In barrels of 42 U. S. gallons)

(Source.—"Monthly Petroleum Statement," issued by United States Bureau of Mines, Department of the Interior.)

State or District	January	February	March	April	May	June	July	August	September	October	November	December [A]	Total 1935	Total 1934
Arkansas	882,000	844,000	970,000	924,000	965,000	935,000	936,000	917,000	878,000	930,000	890,000	915,000	10,986,000	11,184,000
California	15,511,000	13,959,000	15,431,000	14,174,000	15,342,000	16,709,000	17,418,000	18,604,000	19,210,000	20,152,000	20,294,000	21,094,000	207,898,000	174,305,000
Huntington Beach	1,212,000	1,092,000	1,230,000	1,164,000	1,189,000	1,342,000	1,322,000	1,339,000	1,283,000	1,340,000	1,300,000	1,370,000	15,183,000	15,006,000
Kettleman Hills	2,104,000	1,898,000	2,021,000	1,588,000	1,675,000	1,851,000	1,906,000	2,229,000	2,642,000	3,104,000	3,319,000	3,266,000	27,603,000	21,390,000
Long Beach	1,930,000	1,843,000	2,035,000	1,956,000	2,027,000	2,232,000	2,402,000	2,443,000	2,435,000	2,407,000	2,391,000	2,385,000	26,486,000	22,788,000
Santa Fe Springs	1,200,000	1,057,000	1,202,000	1,108,000	1,135,000	1,176,000	1,241,000	1,384,000	1,644,000	1,698,000	1,629,000	1,690,000	16,164,000	14,663,000
Rest of State	9,065,000	8,069,000	8,943,000	8,358,000	9,316,000	10,108,000	10,547,000	11,209,000	11,206,000	11,603,000	11,655,000	12,383,000	122,462,000	100,458,000
Colorado	116,000	117,000	152,000	150,000	123,000	115,000	124,000	134,000	138,000	130,000	122,000	127,000	1,548,000	1,139,000
Illinois	332,000	295,000	370,000	338,000	382,000	358,000	377,000	379,000	370,000	391,000	369,000	391,000	4,352,000	4,479,000
Indiana	59,000	56,000	65,000	61,000	66,000	64,000	63,000	71,000	66,000	68,000	60,000	63,000	762,000	838,000
Kansas	4,246,000	4,177,000	4,821,000	4,550,000	4,736,000	4,607,000	4,865,000	4,613,000	4,550,000	4,785,000	4,385,000	4,652,000	54,987,000	46,482,000
Kentucky	445,000	405,000	438,000	445,000	464,000	427,000	467,000	454,000	433,000	462,000	424,000	449,000	5,313,000	4,860,000
Louisiana	3,435,000	3,180,000	3,605,000	3,804,000	4,140,000	4,121,000	4,312,000	4,375,000	4,371,000	4,755,000	4,721,000	5,080,000	49,899,000	32,869,000
Gulf Coast	2,727,000	2,540,000	2,921,000	3,096,000	3,406,000	3,435,000	3,596,000	3,617,000	3,545,000	3,807,000	3,759,000	3,887,000	40,336,000	23,794,000
Rest of State	708,000	640,000	684,000	708,000	734,000	686,000	716,000	758,000	826,000	948,000	962,000	1,193,000	9,563,000	9,075,000
Michigan	1,028,000	1,019,000	1,063,000	1,179,000	1,234,000	1,235,000	1,257,000	1,337,000	1,448,000	1,649,000	1,452,000	1,342,000	15,243,000	10,603,000
Montana	374,000	301,000	325,000	332,000	384,000	380,000	416,000	426,000	408,000	409,000	412,000	423,000	4,590,000	3,603,000
New Mexico	1,663,000	1,402,000	1,661,000	1,639,000	1,675,000	1,680,000	1,804,000	1,822,000	1,762,000	1,822,000	1,806,000	1,838,000	20,574,000	16,864,000
New York	357,000	319,000	336,000	350,000	360,000	336,000	372,000	369,000	348,000	370,000	353,000	355,000	4,225,000	3,804,000
Ohio	340,000	312,000	345,000	356,000	363,000	336,000	349,000	311,000	355,000	367,000	318,000	330,000	4,082,000	4,234,000
Central and East	264,000	248,000	266,000	274,000	278,000	256,000	264,000	234,000	281,000	286,000	252,000	260,000	3,163,000	3,258,000
Northwestern	76,000	64,000	79,000	82,000	85,000	80,000	85,000	77,000	74,000	81,000	66,000	70,000	919,000	976,000
Oklahoma	15,216,000	13,730,000	15,648,000	15,653,000	16,215,000	15,528,000	16,435,000	15,357,000	14,934,000	15,950,000	15,319,000	15,369,000	185,354,000	180,107,000
Oklahoma City	4,949,000	4,201,000	4,754,000	5,013,000	5,071,000	4,805,000	4,895,000	4,365,000	4,012,000	4,348,000	4,033,000	3,838,000	54,284,000	62,829,000
Seminole	3,708,000	3,449,000	4,035,000	3,970,000	4,182,000	4,040,000	4,306,000	3,985,000	3,951,000	4,083,000	3,920,000	3,998,000	47,627,000	38,183,000
Rest of State	6,559,000	6,080,000	6,859,000	6,670,000	6,962,000	6,683,000	7,234,000	7,007,000	6,971,000	7,519,000	7,366,000	7,533,000	83,443,000	79,095,000
Pennsylvania	1,304,000	1,214,000	1,348,000	1,380,000	1,414,000	1,285,000	1,376,000	1,305,000	1,251,000	1,356,000	1,306,000	1,310,000	15,849,000	14,478,000
Tennessee	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Texas	31,971,000	30,158,000	33,551,000	31,686,000	33,083,000	32,695,000	33,297,000	32,847,000	32,064,000	32,996,000	32,833,000	34,302,000	391,483,000	381,516,000
Gulf Coast	5,263,000	4,727,000	5,296,000	5,124,000	5,213,000	5,116,000	5,287,000	5,229,000	5,300,000	5,571,000	5,876,000	6,218,000	64,220,000	60,155,000
West Texas	4,561,000	4,260,000	4,735,000	4,523,000	4,612,000	4,502,000	4,634,000	4,600,000	4,509,000	4,727,000	4,801,000	4,855,000	55,319,000	50,272,000
East Texas	14,257,000	13,808,000	15,319,000	14,131,000	14,954,000	15,144,000	15,279,000	15,198,000	14,524,000	14,720,000	14,140,000	14,834,000	176,308,000	181,540,000
Panhandle	1,827,000	1,730,000	1,885,000	1,801,000	1,894,000	1,729,000	1,774,000	1,665,000	1,673,000	1,686,000	1,797,000	1,918,000	21,379,000	20,280,000
Rest of State	6,063,000	5,633,000	6,316,000	6,107,000	6,410,000	6,204,000	6,323,000	6,155,000	6,058,000	6,292,000	6,219,000	6,477,000	74,257,000	69,269,000
West Virginia	333,000	308,000	332,000	336,000	349,000	317,000	339,000	317,000	314,000	357,000	301,000	305,000	3,908,000	4,095,000
Wyoming	1,103,000	963,000	1,023,000	1,066,000	1,155,000	1,206,000	1,274,000	1,174,000	1,204,000	1,207,000	1,107,000	1,174,000	13,656,000	12,556,000
Salt Creek	539,000	499,000	536,000	530,000	539,000	499,000	522,000	515,000	510,000	527,000	516,000	526,000	6,258,000	.....
Rest of State	564,000	464,000	487,000	536,000	616,000	707,000	752,000	659,000	694,000	680,000	591,000	648,000	7,398,000	.....
Other [B]	.....	4,000	4,000	4,000	4,000	4,000	4,000	4,000	5,000	4,000	4,000	4,000	45,000	51,000
United States Totals	78,715,000	72,763,000	81,488,000	78,427,000	82,454,000	82,338,000	85,485,000	84,816,000	84,109,000	88,160,000	86,476,000	89,523,000	994,754,000	908,065,000

[A] Estimated by THE OIL WEEKLY with aid of American Petroleum Institute Weekly reports for December.
[B] Includes Tennessee, Missouri and Utah.

Arkansas Crude Oil Production, by Fields, by Years

Complete Production History of State, in Barrels of 42 U. S. Gallons.

(Sources.—Annual Volumes of *Mineral Resources* and *Minerals Yearbook*.)

YEAR	Bradley La Fayette County	Champagnolle Union County	El Dorado Union County	Irma Nevada County	Lisbon Union County	Miller County	Mount Holly Union County	Smackover Ouachita-Union Counties	Stephens Ouachita-Columbia Counties	Urbana Union County	Unclassified	Total Arkansas
1920	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[A]
1921	.....	.....	10,473,000	.....	.....	.....	.....	.....	.....	.....	.....	10,473,000
1922	.....	.....	10,592,000	.....	.....	.....	.....	2,107,000	13,000	.....	.....	12,712,000
1923	.....	.....	5,830,000	[B]	.....	.....	.....	30,048,000	[B]732,000	.....	.....	36,610,000
1924	.....	.....	4,760,000	450,000	.....	.....	.....	40,000,000	818,000	.....	.....	46,028,000
1925	.....	.....	4,247,000	334,000	.....	.....	.....	72,144,000	673,000	.....	.....	77,398,000
1926	52,000	.....	2,722,000	763,000	2,125,000	.....	.....	52,063,000	607,000	.....	.....	58,332,000
1927	44,000	[C]	[C]2,433,000	774,000	1,054,000	.....	.....	35,201,000	499,000	.....	.....	40,005,000
1928	31,000	3,522,000	2,456,000	536,000	566,000	.....	.....	24,569,000	416,000	.....	.....	32,096,000
1929	24,000	2,651,000	1,987,000	409,000	492,000	.....	[D]	[D]18,991,000	363,000	.....	.....	24,917,000
1930	19,000	1,486,000	1,424,000	390,000	399,000	.....	34,000	15,405,000	319,000	236,000	.....	19,702,000
1931	5,000	944,000	1,186,000	266,000	288,000	.....	4,000	11,504,000	272,000	322,000	.....	14,791,000
1932	.....	623,000	1,182,000	234,000	143,000	.....	.....	9,510,000	213,000	146,000	.....	12,051,000
1933	.....	488,000	1,231,000	264,000	95,000	100,000	.....	8,882,000	127,000	499,000	.....	11,686,000
1934 [E]	.....	516,300	886,200	298,850	135,050	.....	.....	8,055,450	225,950	.....	1,294,300	11,412,100
1935 [E]	.....	887,050	811,550	[F]216,850	75,250	.....	.....	7,436,150	[F]142,650	.....	1,571,300	11,140,800
Total	175,000	11,117,350	52,220,750	4,925,700	5,372,300	100,000	38,000	335,915,600	5,420,600	1,203,000	2,865,600	419,353,900

[A] Small production only, being first for the state, reported in Southwestern Ouachita County.
[B] Irma included with Stephens.
[C] Champagnolle included with El Dorado.
[D] Mount Holly included with Smackover.
[E] All figures for year calculated by THE OIL WEEKLY from weekly reports of the American Petroleum Institute.
[F] Nevada and Stephens included with "Unclassified" after August 31, 1935.

Colorado Crude Oil Production, by Fields, by Years

Complete Production History of State, in Barrels of 42 U. S. Gallons.
(Sources.—Annual Volumes of *Mineral Resources* and *Minerals Yearbook*.)

YEAR	Boulder Boulder County	Florence Fremont County	Fort Collins and Wellington Larimer County	Greasewood Weld County	Iles Moffat County	Moffat Moffat County	Rangely Rio Blanco County	Tow Creek Routt County	Unclassified	Total Colorado
1887		76,295								76,295
1888		297,612								297,612
1889		316,476								316,476
1890		368,842								368,842
1891		665,482								665,482
1892		824,000								824,000
1893		594,390								594,390
1894		515,746								515,746
1895		438,232								438,232
1896		361,450								361,450
1897		384,934								384,934
1898		444,383								444,383
1899		390,278								390,278
1900		317,385								317,385
1901		460,520								460,520
1902	11,800	385,101								396,901
1903	36,722	447,203								483,925
1904	18,167	483,596								501,763
1905	10,502	365,736								376,238
1906	48,952	278,630								327,582
1907	68,353	263,498								331,851
1908	84,174	295,479								379,653
1909	85,709	225,062							[A]90	310,861
1910	42,186	193,482							[B]4,126	239,794
1911	37,973	187,341							[B]1,612	226,926
1912	15,304	190,498							[C]250	206,052
1913	11,796	176,693							[C]312	188,799
1914	6,515	215,548							[D]710	222,773
1915	6,376	202,069							[A]30	208,475
1916	5,749	191,486								197,235
1917	5,847	114,664							[A]720	121,231
1918	4,646	134,895							[B]3,745	143,286
1919	5,000	102,000							14,000	121,000
1920	7,000	88,000							16,000	111,000
1921	5,000	83,000							20,000	108,000
1922	4,000	70,000							23,000	97,000
1923	4,000	62,000					20,000			86,000
1924	4,000	70,000	86,000			256,000	29,000			445,000
1925	3,000	97,000	430,000		17,000	605,000	32,000	42,000		1,226,000
1926	2,000	148,000	1,222,000		24,000	1,199,000	33,000	140,000		2,768,000
1927	[F]	[G]291,000	1,260,000		263,000	670,000	[H]69,000	278,000		2,831,000
1928	[F]	[G]430,000	1,030,000		626,000	464,000	[H]34,000	190,000		2,774,000
1929	[F]	[G]344,000	824,000		546,000	436,000	[I]35,000	173,000		2,358,000
1930	[F]	[G]200,000	485,000	[F]	382,000	394,000	[J]47,000	148,000		1,656,000
1931	[F]	[G]135,000	355,000	173,000	391,000	321,000	[I]49,000	121,000		1,545,000
1932	[F]	[G]111,000	290,000	108,000	245,000	248,000	[I]33,000	101,000		1,136,000
1933	[F]	[G]91,000	226,000	56,000	213,000	212,000	[I]33,000	88,000		919,000
1934 [K]		85,500	184,300			172,400			678,700	1,120,900
1935 [K]		74,250	147,600		742,250	159,200			441,900	1,565,200
Total	534,771	13,288,756	6,539,900	337,000	3,448,250	5,136,600	414,000	1,281,000	1,205,193	32,186,470

General note: Colorado had first production shortly after Pennsylvania strike in 1859. *Mineral Resources* for 1888 indicated all of state output to that time was from Florence, near Canon City.

[A] Garfield County.
[B] Garfield and Rio Blanco Counties.
[C] Rio Blanco County.
[D] Mesa and Rio Blanco Counties.
[F] Included with Rangely.
[G] Florence includes Canon City.
[H] Rangely includes Boulder and Walden.
[I] Rangely includes Berthoud, Boulder and Walden.
[J] Rangely includes Berthoud, Boulder, Greasewood and Walden.
[K] All figures for year calculated by THE OIL WEEKLY from weekly reports of the American Petroleum Institute.

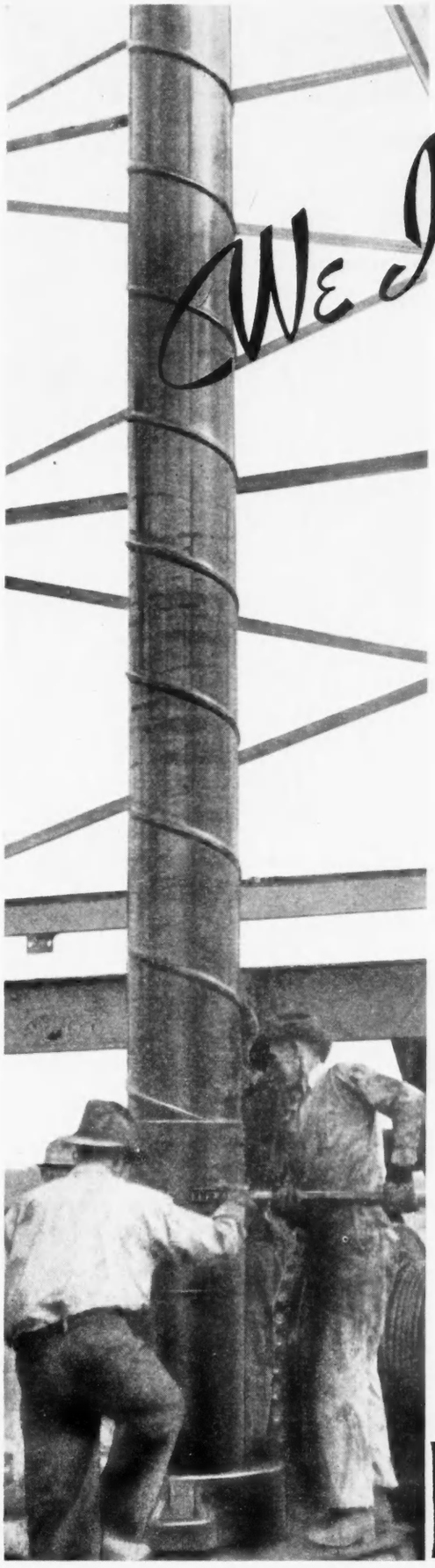
Indiana Crude Oil Production, by Fields, by Years

Complete Production History of State, in Barrels of 42 U. S. Gallons.
(Sources.—Annual Volumes of *Mineral Resources* and *Minerals Yearbook*.)

YEAR	Northeastern Indiana	Southwestern Indiana	Total Indiana
1889-1904	[A]66,225,000	[B]136,750	66,361,750
1905	[A]10,955,000	[B]9,247	10,964,247
1906	[A]7,666,000	[B]7,477	7,673,477
1907	[A]5,119,000	[B]9,037	5,128,037
1908	[A]3,275,000	[B]8,629	3,283,629
1909	[A]2,086,000	[B]210,086	2,296,086
1910	[A]1,200,000	[B]959,725	2,159,725
1911	[A]850,000	[B]845,289	1,695,289
1912	[A]450,000	[B]520,009	970,009
1913	[A]350,000	[B]606,095	956,095
1914	[A]375,000	[B]960,456	1,335,456
1915	[A]300,000	[B]575,758	875,758
1916	[A]275,000	[B]494,036	769,036
1917	[A]250,000	[B]509,432	759,432
1918	[A]275,000	[B]602,558	877,558
1919	282,000	690,000	972,000
1920	292,000	653,000	945,000
1921	267,000	891,000	1,158,000
1922	239,000	848,000	1,087,000
1923	250,000	793,000	1,043,000
1924	269,000	666,000	935,000
1925	180,000	649,000	829,000
1926	150,000	658,000	808,000
1927	126,000	726,000	852,000
1928	89,000	963,000	1,052,000
1929	63,000	918,000	981,000
1930	53,000	941,000	994,000
1931	37,000	803,000	840,000
1932	29,000	777,000	806,000
1933	14,000	723,000	737,000
1934 [C]	[D]	[D]838,000	838,000
1935 [E]	[D]	[D]762,000	762,000
Total	101,991,000	19,753,584	121,744,584

(Continued to column to right)

[A] From *Petroleum in United States and Possessions* by *Arnold and Kemnitzer*, page 259.
[B] Estimated with aid of *Arnold and Kemnitzer* and *Mineral Resources*.
[C] From Bureau of Mines final annual summary on petroleum for 1934.
[D] Northeastern Indiana included with Southwestern Indiana.
[E] Bureau of Mines figures for first 11 months; December estimated by THE OIL WEEKLY.



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Kansas Crude Oil Production, by Fields, by Years

Complete Production History of State, in Barrels of 42 U. S. Gallons.

(Sources.—Annual Statistical issues of The OIL WEEKLY, the figures being based on weekly reports of the American Petroleum Institute.)

YEAR	Augusta Butler County	Augusta-Douglas Butler County	Augusta-Fox-Bush Butler County	Blankenship Butler County	Burrton-Haury Reno County	Chase Rice County	Churchill Sumner County	Elbing Butler County	Elbing-Peabody Marion-Butler Counties	El Dorado Butler County	El Dorado-Towanda Butler County	Florence-Covert Marion County	Fox-Bush Butler County	Greenwood County	Hollow Harvey County
1889-1921															
1922		5,239,943		319,125					5,193,550	7,745,843		4,157,567	704,290	634,162	
1923		1,515,112		1,588,530					4,518,158	6,683,552		1,974,820	2,919,783	4,895,519	
1924		1,232,303		1,155,644					3,298,095	6,120,096		958,194	1,987,366	6,716,291	
1925		1,321,700		941,017					2,146,247	5,257,313		747,784	732,943	9,129,190	
1926			1,786,575				922,560		1,560,995		5,166,135	672,070		13,668,890	
1927			1,608,925				5,377,040		1,394,325		5,003,520	630,845		13,539,105	
1928			1,367,050				3,801,400		1,264,850		4,945,600	433,700		10,303,850	
1929			1,087,550				2,412,950		1,127,000		5,651,600	353,450		7,903,700	
1930			1,043,150				1,447,700		1,031,800		5,014,450	294,700		6,899,163	
1931			1,020,350				1,114,950		715,800		5,069,750	268,250		5,565,200	
1932			931,050				789,350		680,300		3,931,800	195,450		4,761,300	
1933			846,350			27,650	599,200		606,050		3,657,300	157,950		4,166,500	2,938,200
1934	[A]		[A]943,850		660,150	1,684,900	[B]371,700		[C]491,100		4,321,200	[D]102,100		4,389,150	3,383,800
1935	727,150				7,338,850	[F]4,493,100		402,050			3,928,700			3,980,650	[G]1,622,850
Total	727,150	9,309,058	10,634,850	4,004,316	7,999,000	[F]6,205,650	16,836,850	402,050	24,028,270	25,806,804	46,690,055	10,946,880	6,344,382	96,552,670	[G]7,946,850

YEAR	Leon and Webster Butler County	Lorraine	Nikkel Harvey County	Oxford Sumner County	Rainbow Bend Cowley County	Raymond Rice County	Ritz McPherson County	Ritz-Canton McPherson County	Russell County	Sedgwick County	Steckel-Isern	Voshell McPherson County	Unclassified	Total Kansas (By THE OIL WEEKLY)	Total Kansas (By Government Sources)
1889-1921	197,068												230,604,155	230,604,155	230,604,155
1922	746,765												7,577,117	31,768,665	31,766,000
1923	242,520												4,564,686	29,406,925	28,250,000
1924					1,199,119								5,441,373	28,351,001	28,836,000
1925					4,591,494				193,967				9,436,101	34,497,756	38,357,000
1926					1,608,325				1,851,755				13,065,065	40,302,370	41,498,000
1927					897,925				1,076,825				10,644,505	40,173,015	41,069,000
1928				4,082,250	579,950				1,259,850	61,500			10,146,850	38,246,850	38,596,000
1929				1,703,550	387,800				1,182,950	8,723,200			11,493,470	42,027,220	42,813,000
1930				991,400	393,300				1,203,400	7,878,300		3,970,200	12,663,750	42,831,313	41,638,000
1931				755,200	480,400	169,400	2,667,800		1,170,100	5,971,350		5,623,650	8,633,850	39,246,050	37,018,000
1932				507,650	451,600	405,250	4,975,450		1,020,050	4,560,450		2,650,150	9,615,000	35,474,850	34,848,000
1933			1,704,300	365,100	433,050	642,200	7,183,950		1,004,950	3,392,400		2,835,600	11,190,000	41,750,750	41,976,000
1934			1,970,500	[E]304,100	402,400	773,500		4,726,150	2,592,650	2,642,700		2,449,050	13,366,050	45,577,050	46,482,000
1935		[H]1,296,100	[G]1,384,100	[I]785,500	404,750	1,036,750		3,058,550	4,191,950	3,048,950	[J]321,350	1,716,400	13,275,650	53,013,400	54,987,000
Total	1,186,353	[H]1,296,100	[G]5,058,900	[I]9,514,750	11,830,113	3,027,100	14,827,200	7,784,700	16,748,447	36,278,850	[J]321,350	19,245,050	371,717,622	773,271,370	778,738,155

[A] Augusta-Fox-Bush represents only Augusta after September 1, 1934.

[B] Churchill 1934 production included with unclassified after November 3, 1934.

[C] Peabody production for 1934 included with unclassified after August 4, 1934.

[D] Florence-Covert production for 1934 shown with unclassified after August 4, 1934.

[E] Oxford production for 1934 included with unclassified after November 3, 1934.

[F] Chase includes Byers beginning December 14, 1935.

[G] Nikkel included with Hollow during December, 1935.

[H] Lorraine production shown separately for first time July 6, 1935; previously included with "Unclassified."

[I] Oxford production prior to September 1, 1935, included with "Unclassified."

[J] Steckel production shown with "Unclassified" prior to October 13, 1935.

Michigan Crude Oil Production, by Fields, by Years

Complete Production History of State, in Barrels of 42 U. S. Gallons

(Sources.—For 1925-1934, figures are from compilation by Kurt H. de Cousser from Michigan Geological Survey Production Figures.)

YEAR	Saginaw County	Muskegon Field Mushegon County	Mount Pleasant Isabella-Midland Counties	Leaton Field Isabella County	Vernon Field Isabella County	Porter Township Midland County	Oceana County	Yost Field Midland County	Ogemaw County	Montcalm County	Miscellaneous	Total Michigan
1925	4,000											4,000
1926	94,000											94,000
1927	434,000	1,928										435,928
1928	231,000	334,601	27,019									592,620
1929	113,559	3,157,668	1,367,836	1,948							228	4,641,239
1930	89,387	1,297,962	2,378,775	138,470	22,616						1,019	3,928,229
1931	61,876	531,147	2,647,879	299,621	244,166	944						3,785,633
1932	63,616	478,728	5,795,860	237,870	322,354	7,381	329	19,362			165	6,925,665
1933	55,066	276,174	3,128,804	303,023	538,708	3,354,175	45,853	219,485	18,974	1,661	72	7,941,995
1934	48,226	158,425	1,512,933	244,950	907,239	7,168,161	58,814	275,807	124,922	102,600	682	10,602,759
1935			2,128,600			[B]9,268,150		[B]		3,597,900	[A]666,650	15,661,300
Total	1,194,730	6,236,633	18,987,706	1,225,882	2,035,083	19,798,811	104,996	514,654	143,896	3,702,161	668,816	54,613,368

[A] Miscellaneous includes Western Michigan and Eastern Michigan.

[B] Porter Township includes Yost Field.

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Louisiana Crude Oil Production, by Sections, by Years

Summary of Sections of State, in Barrels of 42 U. S. Gallons

(Sources.—Accompanying sectional tables for Northern Louisiana and Louisiana Gulf Coast.)

YEAR	Northern Louisiana (by Government Sources.)	Louisiana Gulf Coast (by THE OIL WEEKLY.)	Louisiana Gulf Coast (by Government Sources.)	Total Louisiana (by THE OIL WEEKLY.)	Total Louisiana (by Government Sources.)
1902	.....	548,617	548,617	548,617	548,617
1903	.....	917,771	917,771	917,771	917,771
1904	.....	2,958,958	2,958,958	2,958,958	2,958,958
1905	.....	8,910,416	8,910,416	8,910,416	8,910,416
1906	3,358	9,074,170	9,074,170	9,077,528	9,077,528
1907	50,000	4,950,221	4,950,221	5,000,221	5,000,221
1908	499,937	5,288,937	5,288,937	5,788,874	5,788,874
1909	1,028,818	2,030,713	2,030,713	3,059,531	3,059,531
1910	5,090,793	1,750,602	1,750,602	6,841,395	6,841,395
1911	6,995,828	3,724,592	3,724,592	10,720,420	10,720,420
1912	7,177,949	2,085,490	2,085,490	9,263,439	9,263,439
1913	9,781,560	2,717,268	2,717,268	12,498,828	12,498,828
1914	11,808,469	2,500,966	2,500,966	14,309,435	14,309,435
1915	15,082,034	3,109,505	3,109,505	18,191,539	18,191,539
1916	11,821,642	3,426,496	3,426,496	15,248,138	15,248,138
1917	8,561,963	2,830,238	2,830,238	11,392,201	11,392,201
1918	13,304,399	2,738,201	2,738,201	16,042,600	16,042,600
1919	14,879,000	2,309,000	2,309,000	17,188,000	17,188,000
1920	33,767,000	1,947,000	1,947,000	35,714,000	35,714,000
1921	25,173,000	1,930,000	1,930,000	27,103,000	27,103,000
1922	33,629,000	1,747,000	1,747,000	35,376,000	35,376,000
1923	22,469,000	2,450,000	2,450,000	24,919,000	24,919,000
1924	18,637,000	2,487,000	2,487,000	21,124 000	21,124,000
1925	17,045,000	3,225,000	3,227,000	20,270,000	20,272,000
1926	19,061,000	4,125,000	4,140,000	23,186,000	23,201,000
1927	17,768,000	5,026,535	5,050,000	22,794,535	22,818,000
1928	14,794,000	6,507,632	7,053,000	21,301,632	21,847,000
1929	13,100,000	7,296,561	7,454,000	20,396,561	20,554,000
1930	14,662,000	8,452,208	8,610,000	23,114,208	23,272,000
1931	12,244,000	9,855,060	9,560,000	22,099,060	21,804,000
1932	10,191,000	11,725,727	11,616,000	21,916,727	21,807,000
1933	9,862,000	15,355,051	15,306,000	25,217,051	25,168,000
1934	[A]9,075,000	22,980,766	[A]23,794,000	32,055,766	[A]32,869,000
1935	[B]9,563,000	40,716,700	[B]40,336,000	50,279,700	[B]49,899,000
Total	387,125,750	207,699,401	208,579,161	594,825,151	595,704,911

[A] From Bureau of Mines final annual report on petroleum for 1934.

[B] Bureau of Mines figures for first 11 months; December estimated by THE OIL WEEKLY.

Northern Louisiana Crude Oil Production, by Fields, by Years

Complete Production History of District, in Barrels of 42 U. S. Gallons

(Sources.—Except as otherwise indicated in footnotes, figures are from annual volumes of *Mineral Resources* and *Minerals Yearbook.)*

YEAR	Bellevue Bossier Parish	Bossier Parish	Caddo Parish	Converse Sabine Parish	Cotton Valley Webster Parish	DeSoto Parish	Elm Grove Bossier Parish	Haynesville Claiborne Parish	Holly De Soto Parish	Homer Claiborne Parish
1906	.....	.....	3,358	.....	.....	.....	.....	.....	.....	.....
1907	.....	.....	50,000	.....	.....	.....	.....	.....	.....	.....
1908	.....	.....	499,937	.....	.....	.....	.....	.....	.....	.....
1909	.....	.....	1,028,818	.....	.....	.....	.....	.....	.....	.....
1910	.....	.....	5,090,793	.....	.....	.....	.....	.....	.....	.....
1911	.....	.....	6,995,828	.....	.....	.....	.....	.....	.....	.....
1912	.....	.....	7,177,949	.....	.....	.....	.....	.....	.....	.....
1913	.....	.....	9,781,560	.....	.....	.....	.....	.....	.....	.....
1914	.....	.....	7,572,254	.....	.....	[A]3,834,593	.....	.....	.....	.....
1915	.....	.....	6,471,879	.....	.....	1,797,175	.....	.....	.....	.....
1916	.....	.....	5,463,682	.....	.....	1,657,216	.....	.....	.....	.....
1917	.....	36,188	5,483,638	.....	.....	1,370,889	.....	.....	.....	.....
1918	.....	45,138	11,143,890	.....	.....	1,065,847	.....	.....	.....	.....
1919	.....	.....	[B]8,700,000	.....	.....	[B]1,200,000	.....	.....	.....	[B]2,000,000
1920	.....	.....	6,336,000	.....	.....	[C]	.....	.....	.....	21,508,000
1921	.....	.....	5,342,000	.....	.....	719,000	.....	3,161,000	.....	13,030,000
1922	1,050,000	.....	4,498,000	.....	.....	531,000	160,000	19,939,000	.....	5,673,000
1923	2,351,000	.....	4,178,000	.....	.....	429,000	220,000	10,496,000	.....	3,581,000
1924	1,749,000	.....	4,319,000	.....	1,211,000	353,000	217,000	6,720,000	.....	2,837,000
1925	1,129,000	.....	4,067,000	.....	3,348,000	305,000	212,000	4,604,000	.....	2,296,000
1926	788,000	.....	4,749,000	.....	2,914,000	321,000	222,000	3,328,000	.....	2,033,000
1927	472,000	.....	5,789,000	.....	1,968,000	541,000	222,000	2,600,000	.....	1,785,000
1928	323,000	.....	4,798,000	.....	1,731,000	463,000	185,000	2,150,000	.....	1,548,000
1929	255,000	.....	[D]4,589,000	.....	1,040,000	276,000	178,000	1,806,000	.....	1,405,000
1930	233,000	.....	4,120,000	.....	880,000	247,000	172,000	1,743,000	308,000	1,278,000
1931	93,000	.....	3,054,000	.....	509,000	192,000	149,000	1,902,000	189,000	1,083,000
1932	.....	.....	2,486,000	.....	353,000	469,000	109,000	1,534,000	99,000	1,021,000
1933	.....	.....	2,248,000	.....	307,000	411,000	107,000	1,402,000	74,000	991,000
1934 [H]	.....	.....	[I]2,246,250	433,450	191,100	[J]545,600	.....	1,371,350	66,000	967,650
1935 [H]	.....	.....	[I]2,563,200	423,950	[K]107,600	[J]514,600	.....	1,272,000	[K]37,400	973,050
Total	8,443,000	81,326	140,846,036	857,400	14,559,700	17,242,920	2,153,000	64,028,350	773,400	64,009,700

[A] DeSoto includes Sabine Parish.
[B] Estimated.
[C] DeSoto included with Red River.
[D] Caddo includes Carterville and Sarepta.
[E] Zwolle includes Pleasant Hill.
[F] Sarepta includes Carterville.
[G] Sarepta includes Carterville and Pleasant Hill.
[H] All figures for year calculated by THE OIL WEEKLY from weekly reports of the American Petroleum Institute.
[I] Represents Caddo field, Light and Heavy, and does not include Rodessa field.
[J] DeSoto Parish includes Red River Parish.
[K] Cotton Valley and Holly fields included with "Unclassified" after August 31, 1935.
[L] Rodessa production shown with "Unclassified" prior to August 24, 1935.

"Shield-Arc" clears the way to rock-bottom pipe joint costs

FOR 166 miles through the swamps and jungles of Netherland India, *"Shield-Arc"* obliterated obstacles in the recent building of an 8-inch oil line. *"Shield-Arc"* simplified the problem of getting good results from native operators. Day after day, under natural handicaps, fire-line and bell-hole gangs went at an enviable clip. A total of 23,700 welds were chalked up "OK," to the credit of *"Shield-Arc"* speed and quality.

Whether you build a pipe line through Indian jungles or Indiana farmland, you get rock-bottom pipe line costs with a *"Shield-Arc"* welder. Its amazing economy is due to features not found in any other welder.

When not actually producing an arc, *"Shield-Arc"* idles, reducing fuel costs as much as 35%.

"Shield-Arc's" high capacity puts bigger electrodes to work and boosts the welding rate. Its smooth welding current, devoid of blasting peaks, cuts down splatter losses.

Welded by the shielded arc, pipe joints are stronger than the pipe, equal to it in ductility and density and greater in resistance to corrosion. Ask for complete cost-saving data from THE LINCOLN ELECTRIC COMPANY, Department L-203, CLEVELAND, OHIO, U. S. A. Largest Manufacturers of Arc Welding Equipment in the World.

POP: "I don't know of a place on the globe that hasn't seen '*Shield-Arc*' at work. It must be good to deserve such world-wide preference."

LAD: "Yes, and its popularity is largely due to the fact that its husky, hot arc is no gadabout. Blown by wind, or at work in the bell-hole, welding upwards, you'll always find this productive arc a home-loving gent."

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THE LINCOLN ELECTRIC CO.
Dept. L-203, Cleveland, Ohio

Gentlemen: Please tell me how *"Shield-Arc"* gives me highest quality pipe joints at lowest cost.

Firm .....

Your Name ..... Title .....

Address .....

City ..... State .....

Northern Louisiana Crude Oil Production, by Fields, by Years—(Continued)

Complete Production History of District, in Barrels of 42 U. S. Gallons

(Sources.—Except as otherwise indicated in footnotes, figures are from annual volumes of *Mineral Resources* and *Minerals Yearbook.*)

YEAR	Pleasant Hill Sabine Parish	Red River Parish Bull Bayou-Crichton	Rodessa Caddo Parish	 Sabine Parish	Sarepta Bossier Parish	Urania LaSalle-Grant-Winn Parishes	Zwolle Sabine Parish	Unclassified	Total Northern Louisiana
1906									3,358
1907									50,000
1908									499,937
1909									1,028,818
1910									5,090,793
1911									6,995,828
1912									7,177,949
1913									9,781,560
1914		401,622		[A]					11,808,469
1915		6,802,349		10,631					15,082,034
1916		4,691,323		9,421					11,821,642
1917		1,664,955		6,293					8,561,963
1918		1,045,263		4,261					13,304,399
1919		[B]2,900,000						79,000	14,879,000
1920		[C]5,923,000							33,767,000
1921		2,844,000						77,000	25,173,000
1922		1,778,000							33,629,000
1923		1,207,000						7,000	22,469,000
1924		1,231,000							18,637,000
1925		1,074,000				10,000			17,045,000
1926		1,037,000				3,669,000			19,061,000
1927		1,070,000				3,321,000			17,768,000
1928		1,109,000				2,487,000			14,794,000
1929	[E]	987,000			[D]	2,155,000	[E]409,000		13,100,000
1930	178,000	838,000			[F]888,000	1,976,000	1,801,000		14,662,000
1931	115,000	713,000			[F]259,000	1,448,000	2,538,000		12,244,000
1932	85,000	257,000			[F]119,000	1,208,000	2,451,000		10,191,000
1933	[G]	190,000			[G]242,000	883,000	3,007,000		9,862,000
1934 [H]	[J]	[J]	[L]1,296,700		[F]257,200	1,122,400	1,688,650	381,850	9,271,500
1935 [H]					[F]191,500	1,086,150	630,100	486,950	9,583,200
Total	378,000	37,763,512	1,296,700	30,606	1,956,700	19,365,550	12,524,750	1,031,800	387,342,450

See footnote bottom page 78.

Louisiana Gulf Coast Crude Oil Production, by Fields, by Years

YEAR	Anse La Butte St. Martin Parish	Bayou Blue Iberville Parish	Bayou Bouillon St. Martin Parish	Bayou St. Denis Jefferson Parish	Black Bayou Cameron Parish	Bosco Acadia-St. Landry Parishes	Caillou Island Terrebonne Parish	Cameron Meadows Cameron Parish	Choctaw Iberville Parish	Darrow Iberville Parish	Dog Lake Terrebonne Parish	Edgerly Calcasieu Parish	Fausse Pointe Iberia Parish	Four Isle Terrebonne Parish
1900														
1901														
1902														
1903														
1904	[A]													
1905	9,000													
1906	25,000													
1907	60,385													
1908	145,805													
1909	37,930													
1910	44,018													
1911	62,411													
1912	25,000													
1913	6,612											[A]		
1914	18,623											586,376		
1915	20,982											1,403,030		
1916	12,818		[A]									1,252,538		
1917	4,900											805,609		
1918	3,000											512,458		
1919			[A]									361,000		
1920												379,000		
1921	47,000											250,000		
1922	36,000											125,000		
1923	18,000											157,000		
1924	12,000											166,000		
1925	17,000											185,000		
1926	17,000											207,000		
1927	17,000											467,000	[B]7,710	
1928	16,000		205,000									358,000	[B]4,100	
1929	14,000	[B]6,523	72,000		[B]26,037						[B]2,837	245,000		
1930	9,000	[B]25,368	78,000		177,000		[B]6,005				[B]88	161,000		
1931	12,000	[B]48,834	15,000		477,000			[B]20,154	104,000			109,000		
1932	11,000	[B]1,891			353,000			[B]23,063	146,000	[B]805		63,000		
1933	[B]12,253				292,000		362,000	[B]43,700	100,000	[B]7,583		50,000		
1934	[B]13,363				[B]411,133	[B]1,061,889	[B]1,362,120	[B]479,670	[B]312,116	[B]3,854		[B]73,115		[B]20,412
1935 [E]	[F]2,585,150			[G]426,600	563,900	6,309,350	2,883,500	[B]871,900				[I]54,150		
Total	[F]3,313,250	82,616	370,000	[G]426,600	2,299,770	7,371,239	4,613,625	1,438,487	662,116	12,242	2,925	[I]7,970,276	11,810	20,412

[A] Small production, but no record available.
[B] From oil company records.
[C] DeGolyer and Others' *Geology of Salt Dome Oil Fields* (1926) indicated total output of Pine Prairie field had been around 20,000 barrels, occurring chiefly about years 1912-1914 and 1917-1918.
[D] New Iberia and Welsh in 1919 and 1920 estimated by dividing figure for "other fields" of Coastal Louisiana, as reported in *Mineral Resources.*
[E] All figures for 1935 calculated by THE OIL WEEKLY from weekly reports of the American Petroleum Institute.
[F] For 1935 Anse La Butte includes all minor and new fields for which production figures are not shown.
[G] Production included with Anse La Butte prior to September 1, 1935.
[H] Cameron Meadows production prior to May 4, 1935, included with Anse La Butte.
[I] Edgerly and Gueydan production included with Anse La Butte after July, 1935.
[J] Gillis production included with Anse La Butte prior to March 23, 1935.
[K] Production included with Anse La Butte prior to June 1, 1935.

THE LAYNE

WIRE WRAPPED SCREENS

ARE *precision* MADE

Automatic machines size, lug, wrap and space the wire to form accurate openings from 4/1000 of an inch up to any gauge desired. These openings are made and held to accuracy by micrometer controlled sizers.

THE LAYNE & BOWLER CO.

HOUSTON, TEXAS

The Layne-New York Co., 92 Liberty St., New York

Vickers, Ltd., London, England

The Layne & Bowler Corp., Los Angeles, Calif.

Louisiana Gulf Coast Crude Oil Production by Fields by Years—(Continued)

YEAR	Garden Island Plaquemines Parish	Gillis Calcasieu Parish	Gueydan Vermilion Parish	Hackberry Old Cameron Parish	Hackberry East Cameron Parish	Iowa Calcasieu-Jefferson Davis Parishes	Jennings Acadia Parish	Lake Barre Terrebonne Parish	Lake Hermitage Plaquemines Parish	Lake Pelto Terrebonne Parish	Lake Washington Plaquemines Parish	Leesville La Fourche Parish	Lockport Calcasieu Parish	New Iberia Iberia Parish
1900[C]														
1901														
1902							548,617							
1903							892,609							
1904							2,923,066							
1905							8,891,416							
1906							9,025,174							
1907							4,842,520							
1908							5,111,577							
1909							1,966,614							
1910							1,625,159							
1911							1,180,177							
1912							1,105,711							
1913							790,648							
1914							412,036							
1915							434,815							
1916							516,674							
1917							399,469							24,894
1918							369,499							9,621
1919							347,000							[D]5,000
1920							232,000							[D]2,000
1921							254,000							
1922							191,000							
1923							204,000							
1924							213,000						128,000	
1925							278,000						471,000	
1926							342,000						1,343,000	
1927					[B]41,925		299,000						2,038,000	
1928				[B]5,400	[B]627,272		250,000						1,445,000	
1929				[B]806,564	[B]838,099		515,000	46,000		[B]31,597			1,369,000	[B]1,850
1930				[B]426,543	[B]610,703		495,000	388,000		[B]56,290			1,131,000	[B]2,497
1931				[B]255,995	[B]1,394,871	[B]34,265	169,000	1,021,000		[B]30,346	39,000	154,000	1,906,000	
1932			195,000	[B]198,375	[B]2,055,539	489,000	332,000	2,722,000		[B]20,727	152,000	273,000	989,000	
1933			165,000	[B]212,848	[B]1,771,407	3,396,000	400,000	3,021,000		[B]17,432	154,000	359,000	938,000	
1934		[B]48,362	[B]104,864	[B]193,057	[B]1,728,788	[B]5,276,422	[B]445,186	[B]1,796,142	[B]74	[B]1,258	[B]367,795	[B]3,960,866	[B]712,334	[B]63,720
1935[E]		[J]2,033,550	[J]46,050	161,100	2,409,950	7,322,750	677,400	2,934,450			[K]307,950	5,004,250	654,450	[K]524,550
Total		2,081,912	[I]510,914	2,259,882	11,478,554	16,518,437	46,679,367	11,928,592	74	157,650	1,020,745	9,751,116	13,124,784	634,132

Mineral Resources

Figures on Hackberry including Old and East Hackberry

Year	Bbls. Prod
1927	42,000
1928	1,149,000
1929	1,783,000
1930	1,213,000
1931	1,399,000
1932	2,149,000
1933	1,938,000

YEAR	Pine Prairie Evangeline Parish	Port Barre St. Landry Parish	Roanoke Jefferson Davis Parish	St. Martinsville St. Martin Parish	Sorrento Ascension Parish	Starks Calcasieu Parish	Sulphur Calcasieu Parish	Sweet Lake Cameron Parish	Tepetate Acadia Parish	Vinton Calcasieu Parish	Welsh Jefferson Davis Parish	White Castle Iberville Parish	Total Louisiana Gulf Coast (By THE OIL WEEKLY)	Total Louisiana Gulf Coast (By Government Sources)
1900														
1901														
1902														
1903													548,617	548,617
1904											25,162		917,771	917,771
1905											35,892		2,958,958	2,958,958
1906											10,000		8,910,416	8,910,416
1907											23,996		9,074 170	9,074,170
1908											47,316		4,950,221	4,950,221
1909											31,555		5,288,937	5,288,937
1910											26,169		2,030,713	2,030,713
1911										26,701	54,724		1,750,602	1,750,602
1912	[C]									2,454,103	27,901		3,724,592	3,724,592
1913	[C]									932,639	22,140		2,085,490	2,085,490
1914	[C]									1,888,864	31,144		2,717,268	2,717,268
1915										1,465,302	18,629		2,500,966	2,500,966
1916										1,234,227	16,451		3,109,505	3,109,505
1917	[C]									1,640,147	4,319		3,426,496	3,426,496
1918	[C]									1,595,366			2,830,238	2,830,238
1919										1,839,083	4,540		2,738,201	2,738,201
1920										1,592,000	[D]4,000		2,309,000	2,309,000
1921										1,333,000	[D]1,000		1,947,000	1,947,000
1922										1,379,000			1,930,000	1,930,000
1923										1,395,000			1,747,000	1,747,000
1924										2,071,000			2,450,000	2,450,000
1925										1,968,000			2,487,000	2,487,000
1926							[B]1,000			2,274,000			3,225,000	3,227,000
1927						262,000	[B]30,900	77,000		2,215,000			4,125,000	4,140,000
1928					289,000	186,000	890,000	661,000		1,786,000			5,026,535	5,050,000
1929		33,000			110,000	170,000	1,374,000	93,000		1,569,000	[B]1,860		6,507,632	7,053,000
1930		970,000			30,000	206,000	1,362,000	193,000		1,484,000	[B]41,838	[B]16,216	7,296,561	7,454,000
1931		450,000			53,000	260,000	567,000	459,000		1,768,000	[B]56,714	300,000	8,452,208	8,610,000
1932		577,000			13,000	289,000	822,000	271,000		1,940,000	[B]6,595	329,000	9,855,060	9,560,000
1933		956,000			15,000	328,000	910,000	335,000		1,514,000	[B]14,327	200,000	11,725,727	11,616,000
1934		[B]992,588	[B]238,736		[B]10,449	[B]263,756	[B]1,288,537	[B]386,735		1,302,000	[B]14,828	192,000	15,355,051	15,306,000
1935[E]		1,301,900	1,585,350				948,350			[B]1,153,007	[B]11,157	[B]199,261	[B]22,980,766	23,794,000
Total		5,280,488	1,824,086		520,449	1,964,756	8,193,787	2,475,735		904,050		206,350	40,716,700	40,336,000
										40,723,489	532,257	1,442,827	207,699,401	208,579,161

See footnote bottom page 80.

TEXAS IRON WORKS

Manufactures

WORLD'S LARGEST LINE OF SLIPS

for all makes of rotaries

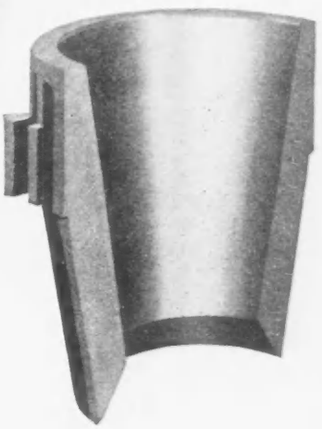
Patented
Figure 205
T-I-W FRICTION SLIPS and ADAPTER. 14½-inch bearing surface against pipe.

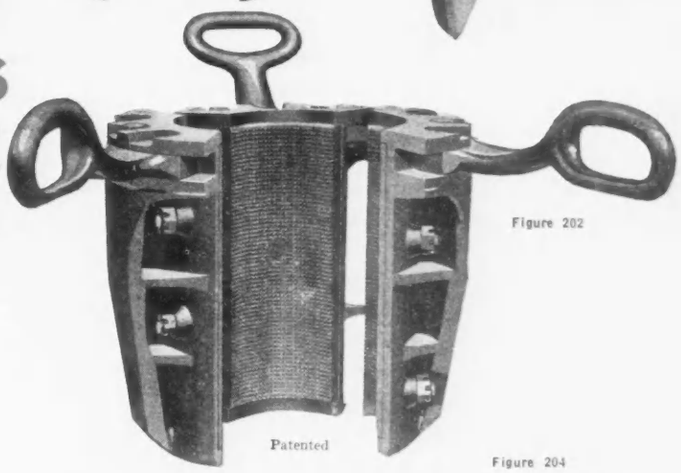
Patented
Figure 206
RELEASING ADAPTER for T-I-W FRICTION SLIPS.

T-I-W SLIPS SAVE PIPE

T-I-W LONG RELINER TYPE SLIP with Adapter which makes 62% added length possible, giving 20" bearing surface against pipe.

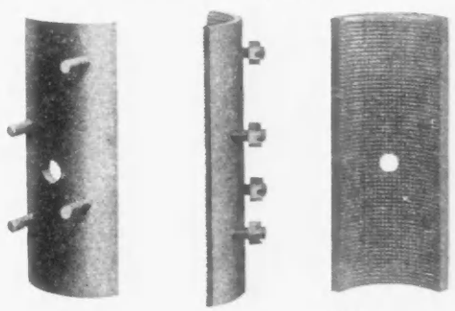
Figure 201





Patented
Figure 202

Figure 207
T-I-W FRICTION SLIPS—Two-piece Reliner Type. Showing the two halves of the two-piece slips, also liners for same. 13¼-inch bearing surface against pipe.



Patented
Figure 204

T-I-W REGULAR RELINER TYPE THREE-PIECE SLIPS are used without the Releasing Adapter; the taper on the slips fitting the taper on the rotary bowl.

TEXAS IRON WORKS

QUICK DELIVERY **FROM LARGE STOCKS**

HOUSTON, TEXAS **1401-1423 *Maury Street***

Montana Crude Oil Production, by Fields, by Years

Complete Production History of State, in Barrels of 42 U. S. Gallons.

(Sources.—Annual Volumes of *Mineral Resources* and *Minerals Yearbook*.)

YEAR	Border Toole County	Cat Creek Petroleum County	Cut Bank Glacier County	Dry Creek Carbon County	Elk Basin Carbon County	Kevin Sunburst Toole County	Lake Basin Stillwater County	Pondera Pondera-Teton Counties	Others	Total Montana
1916					44,917					44,917
1917					99,399					99,399
1918					69,323					69,323
1919					90,000					90,000
1920		243,000			97,000					340,000
1921		1,408,000			75,000				26,000	1,509,000
1922		2,333,000			46,000	36,000			34,000	2,449,000
1923		2,227,000			28,000	523,000			4,000	2,782,000
1924		1,572,000			24,000	1,217,000			2,000	2,815,000
1925		1,255,000			21,000	2,780,000	31,000		4,000	4,091,000
1926		1,015,000			19,000	6,630,000	63,000			7,727,000
1927		[A]779,000			17,000	4,214,000	48,000			5,058,000
1928		[A]613,000			20,000	3,189,000	43,000	150,000		4,015,000
1929		[A]497,000			19,000	2,378,000	29,000	1,057,000		3,980,000
1930	120,000	418,000		15,000	16,000	1,998,000	23,000	739,000	20,000	3,349,000
1931	178,000	359,000		164,000	16,000	1,557,000	25,000	525,000	6,000	2,830,000
1932	113,000	311,000		195,000	11,000	1,337,000	18,000	436,000	36,000	2,457,000
1933	51,000	266,000	238,000	125,000	3,000	1,237,000	18,000	308,000	27,000	2,273,000
1934 [B]		229,900	498,950			1,545,800		340,850	609,050	3,224,550
1935 [B]		282,550	2,092,650			1,352,100		421,100	153,650	4,302,050
Total	462,000	13,808,450	2,829,600	499,000	715,639	29,993,900	[1] 298,000	3,976,950	[921,700	53,505,239

[A] Includes small amounts from Bannatyne and Devils Basin.

[B] All figures for year calculated by THE OIL WEEKLY from weekly reports of the American Petroleum Institute.

New Mexico Crude Oil Production, by Fields, by Years

Complete Production History of State, in Barrels of 42 U. S. Gallons.

(Sources.—Except as otherwise indicated in footnotes, figures are from *Mineral Resources*, 1930, and *Minerals Yearbook*, 1934 and later.)

YEAR	Artesia Eddy County	Aztec San Juan County	Bloomfield San Juan County	Cooper Lea County	Eunice Lea County	Getty (Twin Hills) Eddy County	Hobbs Lea County	Hogback San Juan County	Hospah McKinley County	Jal Lea County
1924								86,000		
1925	748,000		[A]					187,000		
1926	1,016,000		[A]					221,000		
1927	582,000		[A]					223,000	[A]	
1928	410,000		[A]		[B]9,826			169,000	[A]	[B]211,644
1929	323,000				[B]15,069	[B]54,082	[B]102,237	120,000	[A]	[B]292,773
1930	261,000				[B]191,378	[B]36,354	6,525,000	159,000		[B]500,652
1931	426,000				[B]361,153	[B]36,836	12,788,000	176,000		[B]404,383
1932	480,000				[B]175,322		10,237,000	133,000		[B]349,777
1933	596,000	[A]			[B]289,434		11,543,000	77,000		[B]538,250
1934	[B]217,168	[A]	[A]	[B]303,981	[B]967,581		[B]12,611,113	[A]		[B]1,017,686
1935 [C]	[D]844,443	[E]4,166	[E]	2,531,852	3,314,720		11,068,664	68,816		1,405,161
Total	5,903,611	4,166		2,835,833	5,324,483	127,272	64,875,014	1,619,816		4,720,326

YEAR	Lea Field Lea County	Maljamar Eddy-Lea Counties	Monument	Rattlesnake San Juan County	T. & P. State Lea County	Table Mesa San Juan County	Vacuum Area Lea County	Others Unclassified	Total New Mexico (By THE OIL WEEKLY)	Total New Mexico (By Government Sources)
1924				[A]				12,000	98,000	98,000
1925				[A]				125,000	1,060,000	1,060,000
1926		2,000		[A]		[A]		427,000	1,666,000	1,666,000
1927		39,000		[A]		[A]		382,000	1,226,000	1,226,000
1928		69,000		[A]		[A]	[B]1,700	295,000	1,166,170	943,000
1929	[B]348,374	[B]194,280		[A]	[B]17,794	[A]	[B]5,777	488,000	1,961,386	1,830,000
1930	[B]1,815,083	[B]270,061		[A]	[B]131,545	[A]	[B]300	462,000	10,352,373	10,189,000
1931	[B]817,394	[B]202,950		[A]	[B]30,486	[A]		347,000	15,590,202	15,227,000
1932	[B]788,691	[B]289,867		[A]	[B]37,786	[A]		260,000	12,751,443	12,455,000
1933	[B]801,530	[B]402,491		[A]	[B]29,424	[A]		291,000	14,568,129	14,116,000
1934	[B]633,435	[B]657,009		[A]	[B]32,461	[A]		[B]423,566	16,864,000	16,864,000
1935 [C]	459,207	[D]	237,394	260,111		34,413			20,228,947	20,574,000
Total	5,663,714	2,126,658	237,394	260,111	279.496	34,413	7,777	3,512,566	97,532,650	96,248,000

GENERAL NOTE: A small showing of oil reported in Bernadillo County back as early as 1889.

[A] Included with unclassified.

[B] From oil company records.

[C] All figures for 1935 are from monthly reports on pipe line runs, compiled by the office of the New Mexico proration umpire.

[D] Artesia includes production of Maljamar.

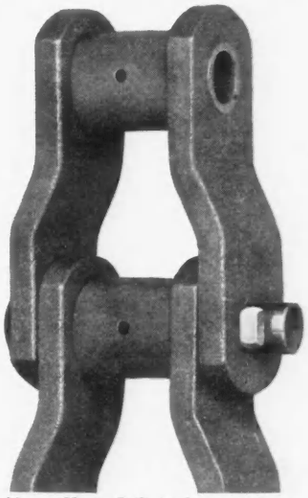
[E] Aztec includes production of Bloomfield.

LINK-BELT

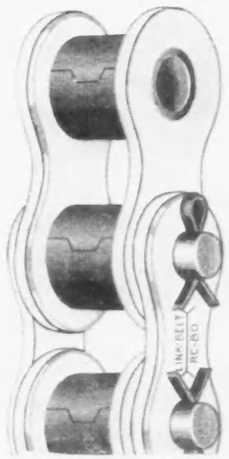
CHAINS *for every Drilling Service*

SS-124, Three-Bar (170,000-lb. ultimate strength) and Two-Bar (130,000-lb. ultimate strength) Hyper drop forged side bar chains (API-4). Their mighty strength is secured by the tough alloy steels of which they are made, and the accuracy of their manufacture.

Identified by the red pin head, LINK-BELT red-hed SS-40+(48,000 lbs. ultimate strength), and SS-124+(112,000 lbs. ultimate strength), have attained outstanding success in the oil fields.



Hyper SS-40. Built to have maximum strength for deep well drilling, combined with maximum durability, on rotaries of A.P.I. 3 pitch. An alloy chain. Ultimate strength is 75,000 pounds. Features accurate, rugged, dependable construction.



For transmitting power at high speed, Link-Belt Silverlink Finished Steel Roller Chains have won a substantial place in the industry. They are employed on various kinds of light and heavy duty oil field equipment.

LINK-BELT "SS" class "Hyper" and "Red-Hed" chains provide a chain of correct capacity for every drilling service. They are all proved, outstanding performers, that have set new standards for strength, smooth operation and reliability.

Take advantage of the extra service values in precision, toughness, hardness and finish, built into them by the country's pioneer and leading chain manufacturers.

Link-Belt "Silverstreak" silent chain is the ideal drive for the direct transmission of power from the motor to oil field equipment of all kinds.

Link-Belt "Silverlink" finished Steel Roller Chain is the ideal drive for moderately high speed power transmission on both light and heavy duty oil field equipment.

VIBRATING SCREENS *for Rotary Mud*

CLEAN MUD of uniform consistency and weight can be maintained automatically with the Link-Belt Vibrating Screen. This efficient unit not only rejects large, heavy cuttings from the mud as it flows over the screen surface on its way to the slush pit, but eliminates fine sand and shale as well. The action of the screen also thoroughly degasses and reconditions the mud for reuse without loss of good mud or reduction in its tenacity. It further simplifies the entire mud system by the reduction in size of mud storage and settling pits.

The Link-Belt screen has many exclusive advantages, such as—larger capacity, because of larger screening area—fine mesh screen cloth, which produces a cleaner mud—longer life of both screen cloth and entire unit—ease of transportation and minimum head room required.

It is a tried and proved unit—preferred by most of the larger producers and drilling contractors. Send for Booklet No. 1572.

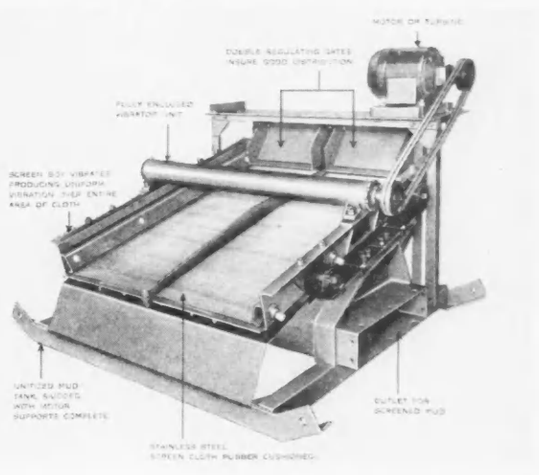
LINK-BELT COMPANY

1553-A

INDIANAPOLIS PHILADELPHIA LOS ANGELES DALLAS

Oklahoma City, W. H. Abele, Box 305, Route 4 Houston, Fred Wallace, 4317 Montrose Blvd., P.O. Box 1082

Export Sales Office: 2680 Woolworth Bldg., New York, U.S.A. Cable Address "LINKBELT"



Oklahoma Crude Oil Production, by Fields, by Years

Complete Production History of the State, in Barrels of 42 U. S. Gallons

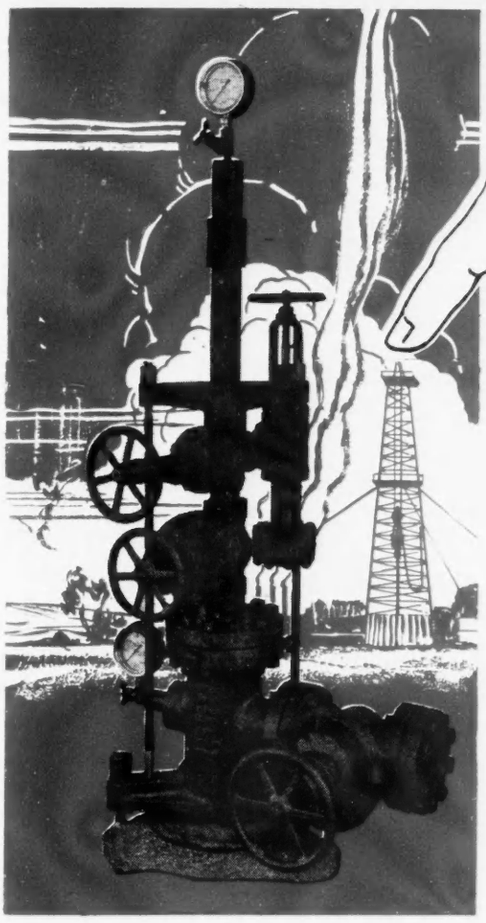
(Sources.—*Mineral Resources* of various years, as follows: Osage County for 1903-1918 from volume of 1918; Glenn Pool for 1907-1910 from 1910; 1911-1913 from 1914; Glenn Pool, Cushing, Unclassified and Totals for 1914 from 1915; 1915-1916 from 1916; 1917-1918 from 1918. All fields for years 1921-1929 from table in *Petroleum Industry of Gulf Southwest*, based on American Petroleum Institute reports. Beginning with 1930, figures are from annual statistical issues of *The Oil Weekly*, being based on weekly reports of the American Petroleum Institute.)

YEAR	Allen Pontotoc County	Asher Pottawatomie County	Asher, West Pottawatomie County	Blackwell Kay County	Bowlegs Seminole County	Braman Kay County	Braman, North Kay County	Braman, South Kay County	Bristow-Slick Creek County	Burbank, South Osage-Kay Counties	Burbank Osage-Kay Counties	Carr City Seminole County	Chandler Lincoln County
1906													
1907													
1908													
1909													
1910													
1911													
1912													
1913													
1914													
1915													
1916													
1917													
1918													
1919													
1920											[F]		
1921				1,223,000							[F]		
1922				971,000					13,213,000		[F]		
1923				860,000					20,139,000		[F]17,874,000		
1924				1,131,000					17,287,000		30,913,000		
1925				3,890,000					12,150,000		19,952,000		
1926				1,409,000			3,227,000	3,101,000	10,661,000		16,501,000		
1927				1,426,000	12,132,000		1,875,000	1,153,000	9,549,000		15,223,000		
1928	4,528,000			1,290,000	23,988,000		1,064,000	576,000	8,195,000		11,963,000		
1929	8,968,000	1,384,000		1,394,000	12,126,000		1,350,000		7,203,000		7,291,000	2,269,000	
1930	6,534,500	606,350	1,496,050	1,142,050	6,728,700	1,168,150			5,575,900		5,760,750	3,240,150	
1931	3,779,550	237,000	2,082,150	1,074,650	4,423,450	716,050			4,472,450		4,671,750	4,273,300	
1932	3,177,500	191,650	1,383,000	1,232,800	4,257,100	616,050			4,250,700		3,953,150	4,293,800	
1933	3,268,650	149,500	886,250	[H]1,387,850	3,937,700	[E]354,900			4,020,450		3,588,400	2,787,400	
1934	2,975,400	153,350	510,950	1,786,000	3,755,500				3,771,650	1,985,300	3,605,850	2,026,550	2,030,750
1935	2,827,500	[L]94,050	[L]229,950	1,751,750	3,888,150				3,352,450	3,990,750	3,101,300	2,007,150	1,842,950
Total	36,059,100	2,815,900	6,588,350	21,969,100	75,236,600	2,855,150	7,516,000	4,830,000	123,840,600	5,976,050	144,398,200	20,897,350	3,873,700

YEAR	Crescent Logan County	Cromwell Seminole County	[A]Cushing-Shamrock Payne and Creek Counties	Davenport Lincoln County	Duncan Stephens County	Earlsboro Seminole County	Earlsboro, East Seminole County	Earlsboro, South Seminole County	Edmund Oklahoma County	Fish Hughes-Seminole Counties	Fitts Pontotoc County	Fox Carter County	Garber Garfield County
1906													
1907													
1908													
1909													
1910													
1911													
1912													
1913													
1914			21,944,985										
1915			49,079,704										
1916			39,911,048										
1917			26,739,628										
1918			20,993,159										
1919			[E]15,500,000										
1920			[E]11,500,000										
1921			9,945,000		4,169,000								3,973,000
1922			10,646,000		4,858,000								5,510,000
1923			9,410,000		3,513,000								2,719,000
1924		10,084,000	8,719,000		2,892,000								2,077,000
1925		11,694,000	8,247,000	2,233,000	2,370,000							975,000	7,684,000
1926		6,231,000	7,976,000	4,231,000	2,684,000							1,594,000	10,920,000
1927		4,595,000	7,776,000	1,177,000	2,520,000	37,210,000						686,000	5,056,000
1928		3,460,000	7,453,900	730,000	2,650,000	33,376,000						612,000	3,130,000
1929		2,885,000	6,738,000	527,000	2,705,000	25,765,000						512,000	1,995,000
1930		2,606,850	4,984,750	383,800	3,029,800	10,224,000	10,807,400	2,216,000				422,900	1,654,350
1931		1,890,200	4,561,400	328,250	2,459,650	5,604,400	5,155,600	1,930,850				[G]	1,364,650
1932		1,844,100	4,332,150	299,750	2,244,250	4,567,450	5,003,100	1,117,500		1,039,850			1,051,600
1933	3,250	1,781,000	4,653,500	267,100	1,882,750	4,051,700	5,834,350	600,950		1,018,750			[J]571,550
1934	1,273,350	1,702,800	5,010,500	270,150	1,637,700	3,389,600	3,778,200	401,950		1,379,650	186,350		
1935	1,890,200	1,565,000	4,730,600	[L]160,650	1,549,400	3,346,950	3,487,700	390,350	[M]1,388,500	3,459,950	6,822,900		
Total	3,166,800	50,338,950	290,851,424	10,607,700	41,164,550	127,535,100	34,066,350	6,657,600	[M]1,388,500	6,898,100	7,009,250	4,801,900	47,706,150

FOOTNOTES: [A] Shamrock included with Cushing beginning 1932.
[B] Glenn pool was discovered in 1905, and no figure available in 1906.
[C] Oklahoma shown with Kansas by *"Mineral Resources"* for 1905 and 1906, and figures shown here are based on division estimated by *Arnold and Kemnitzer.*
[D] Wheeler included with Healdton.
[E] Estimated by THE OIL WEEKLY.
[F] Burbank discovered in 1920. American Petroleum Institute figures shown above for 1921, 1922, and 1923 apparently put important production at Burbank under "Osage outside Burbank."
[G] Fox transferred under Graham in 1931.
[H] Blackwell includes Braman and Hubbard after August 12, 1933.
[J] Tonkawa-Garber-Thomas shown together beginning August 6, 1933.
[K] Subsequent production included with "unclassified."
[L] Asher, West Asher, and Davenport included with "Unclassified" after August 31, 1935.
[M] Edmund and Polo included with "Unclassified" prior to February 9, 1935.

Under the GRAY COORDINATED SYSTEMS *of* WELL CONTROL



★ . . . it is possible to remove, repair and reinstall any or all movable parts . . . while maintaining flow of the well.

DECIDED MONEY-SAVING ADVANTAGES

1 Eliminates tying up, often over a period of years, heavy investments in valves and parts that under conventional methods were left permanently on each christmas tree structure; releasing these parts for use on other wells.

2 Obviates the danger of reducing the flowing life of wells, often the result of stopping the flow while making repairs . . . many times saving pumping costs for years.

Since the flowing life of many wells extends from 5 to 30 years, consideration of the points made above is a matter of vast importance from a **money-saving standpoint** . . . Talk them over with a **GRAY-KEROTEST REPRESENTATIVE.**

GRAY-KEROTEST

Gray Tool Co. Houston Texas.

Kerotest Mfg. Co. Pittsburgh, Pa.

Oklahoma Crude Oil Production, by Fields, by Years—(Continued)

YEAR	Glenn Creek County	Graham Carter County	Grady County	Gray Pottawatomie County	Healdton Carter County	Hewitt Carter County	Holdenville Hughes County	Hubbard Kay County	Keokuk Seminole Pottawatomie Counties	Konawa Seminole County	Konawa, West Pottawatomie County	Little River Seminole County	Little River, East Seminole County
1905	[B]												
1906	[B]												
1907	19,926,995												
1908	20,494,313												
1909	18,946,740												
1910	19,236,914												
1911	13,880,118												
1912	10,495,518												
1913	9,469,870												
1914	8,677,589				[D]2,867,759								
1915	5,993,628				[D]4,818,835								
1916	7,281,979				13,600,931								
1917	7,906,245				18,353,530								
1918	5,387,885				15,695,322								
1919	[E]3,000,000				[E]12,500,000								
1920	[E]2,000,000				[E]10,000,000								
1921					8,351,000	13,828,000							
1922					7,070,000	10,533,000							
1923					6,376,000	9,198,000							
1924		3,831,000			6,003,000	7,365,000							
1925		3,633,000			5,650,000	5,495,000							
1926		3,479,000			5,441,000	4,240,000		874,000					
1927		2,743,000			5,424,000	3,605,000		1,985,000				3,997,000	
1928		1,996,000			5,122,000	3,345,000		989,000				24,791,000	
1929		1,540,000			4,704,000	2,956,000		680,000				28,722,000	
1930		1,216,800	1,216,800		4,276,500	2,532,550		527,400		4,962,500		12,156,350	5,399,850
1931		[G]1,429,400			3,997,450	2,160,850		362,600		3,150,950		7,557,850	2,046,150
1932		1,325,850			3,869,650	2,042,600		359,450		1,651,100		6,356,450	625,400
1933		1,252,900			3,644,700	1,898,850	1,314,250	[H]207,900	155,750	1,075,000	505,100	6,001,700	405,550
1934		1,308,200		806,000	3,371,600	1,805,000	1,155,200		477,000	809,100	[K]15,000	4,994,800	263,950
1935		1,454,200		633,300	3,382,250	1,719,100	585,800		850,550	718,550		5,123,650	314,900
Total	152,697,794	25,209,350	1,216,800	1,439,300	154,519,527	72,723,150	3,055,250	5,985,350	1,483,300	12,367,200	520,100	99,700,800	9,055,800

YEAR	Logan County	Lucien Noble and Logan Counties	Lyon-Deaner Okfuskee County	Marshall-Lovell Logan County	Maud Pottawatomie and Seminole Counties	Mission Wagoner County	Okmulgee, North Okmulgee County	Okmulgee, South Okmulgee County	Okmulgee, North and South Okmulgee County	Oklahoma City Oklahoma County	Osage (Outside of Burbank) Osage County	Papoose Okfuskee-Hughes Counties	Pearson Pottawatomie County
1901													
1902													
1903											56,905		
1904											652,479		
1905											3,421,478		
1906											5,219,106		
1907											5,143,971		
1908											4,961,147		
1909											4,516,524		
1910											5,892,970		
1911											11,707,676		
1912											8,169,158		
1913											9,009,996		
1914											9,935,692		
1915											8,604,389		
1916											8,852,843		
1917											11,214,986		
1918											10,634,076		
1919											14,454,000		
1920											[E]13,000,000		
1921									10,761,000		[F]12,171,000		
1922			7,583,000						8,074,000		[F]37,757,000		
1923			2,451,000						6,351,000		[F]27,747,000		
1924			1,605,000						6,181,000		15,497,000	1,637,000	
1925			1,643,000						6,067,000		12,352,000	7,762,000	
1926			1,520,000						6,472,000		12,366,000	4,069,000	
1927			1,890,000						6,096,000		11,896,000	2,472,000	
1928			2,210,000		451,000				5,528,000		10,236,000	1,626,000	598,000
1929	5,646,000				7,293,000	8,878,000			7,602,000	8,637,000	9,493,000	1,212,000	531,000
1930	2,387,350				1,694,000	3,626,500	3,776,400	2,388,250		33,637,800	9,356,350	978,500	250,910
1931	1,314,450				807,200	2,384,050	2,822,100	1,714,350		44,367,550	7,737,100	723,650	212,200
1932	907,600				681,250	2,383,100	2,466,800	1,358,750		31,616,900	6,853,800	642,150	
1933	682,550	973,400			560,000	1,976,500	1,154,500	603,600		62,995,200	6,231,400	533,000	
1934	[K]6,600	2,817,350		408,700	450,050	1,290,000				60,014,250	9,044,750	480,300	
1935		3,566,500		365,550	451,250	1,112,700				53,131,100	9,565,500	453,300	
Total	10,944,550	7,357,250	18,902,000	774,250	12,387,750	21,650,850	10,219,800	6,064,950	63,132,000	294,399,800	333,751,296	22,588,900	1,592,110

FOOTNOTES: [A] Shamrock included with Cushing beginning 1932.
[B] Glenn pool was discovered in 1905, and no figure available in 1906.
[C] Oklahoma shown with Kansas by *"Mineral Resources"* for 1905 and 1906, and figures shown here are based on division estimated by *Arnold and Kemnitzer.*
[D] Wheeler included with Healdton.
[E] Estimated by THE OIL WEEKLY.
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[M] Edmund and Polo included with "Unclassified" prior to February 9, 1935.

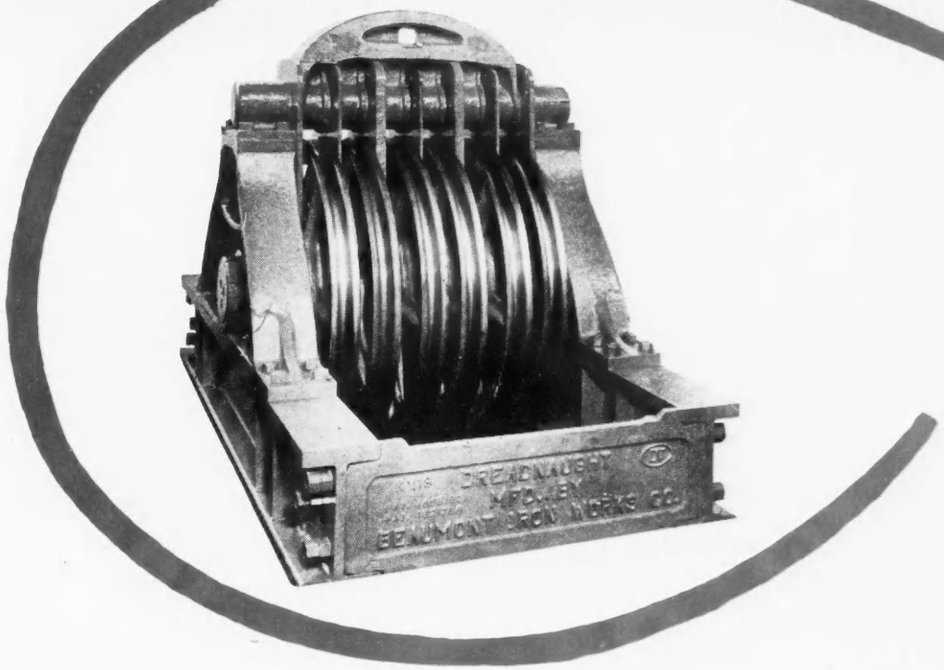
A STANDARD RIG
On Wheels
STAR No. 49 HEAVY DUTY SPUDDER gives standard rig performance with portable machine economy. It fully equals and in many ways surpasses the capacity and efficiency of 5" rig irons. It easily handles a 5½" x 36' stem with heavy bits and is conservatively rated to drill to 4,000 feet. With shear poles the mast has a capacity of 60 tons.
★ STAR No. 49 has better brakes . . . air cooled alloy brake wheels . . . all reels chain-driven . . . roller bearing crown block . . . and employs the spudding principle which is so essential to fast drilling in alternate hard and soft formations.
★ With an outfit like this available, why entail the needless expense of a standard rig for such work? Put your drilling investment on wheels . . . The Star Drilling Machine Company, Akron, Ohio. Branches: Chanute, Kansas; Wichita Falls, Texas; Portland, Oregon
★ ★ ★
No. 49 C STAR HEAVY DUTY SPUDDER
Fully Portable
STAR DRILLING MACHINES

Oklahoma Crude Oil Production, by Fields, by Years—(Continued)

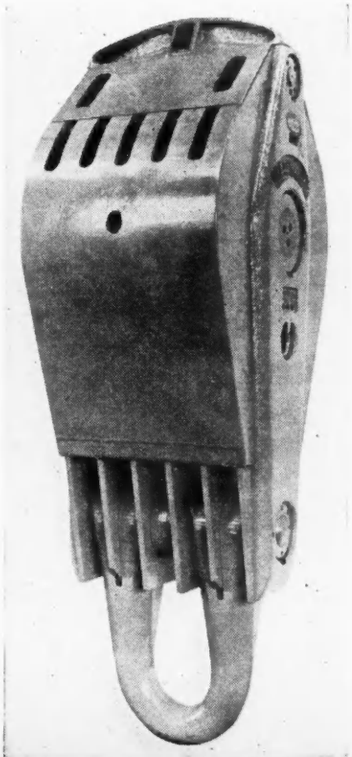
YEAR	Polo Noble County	Sasakwa Seminole County	Sasakwa Townsite Seminole County	St. Louis Pottawatomie County	St. Louis-Pearson Pottawatomie County	Sholem-Alechem Carter-Stephens Counties	Searight Seminole County	Seminole Seminole County	Seminole East Seminole County	Stroud Creek-Lincoln Counties	Tatums Carter County	Thomas Kay County	Tonkawa-Garber-Thomas Kay-Garfield-Noble Counties
1921													
1922													
1923													
1924										3,349,000			
1925										1,310,000		1,993,000	
1926						564,000		10,714,000		815,000		1,719,000	
1927						5,353,000	2,545,000	80,604,000		494,000		1,072,000	
1928				18,290,000		5,250,000	5,211,000	18,346,000		197,000		487,000	
1929		1,195,000		30,318,000		4,790,000	3,884,000	11,916,000	1,118,000			306,000	
1930		2,920,850		11,625,000		4,842,450	3,114,150	6,762,050	1,083,400			221,050	
1931		907,100		6,972,850		4,545,250	1,515,050	4,246,050	564,000			195,200	
1932		626,450			6,722,760	2,964,950	1,215,500	4,004,200	404,150		1,372,200	154,850	
1933		507,950	226,400		7,908,650	2,063,600	1,018,400	3,904,300	426,550		2,330,800	[I]81,900	[J]1,043,450
1934		353,050	480,500		7,903,550	1,607,700	928,500	3,805,850	414,050		2,458,850		2,407,500
1935	[M]1,104,550	459,000	548,850		8,618,350	1,448,600	1,442,950	4,036,300	459,550		1,780,250		2,160,500
Total	[M]1,104,550	6,969,400	1,255,750	67,205,850	31,153,250	33,429,550	20,874,550	148,338,750	4,469,700	6,165,000	7,942,100	6,230,000	5,611,450

YEAR	Tonkawa Kay-Noble Counties	Watchorn Pawnee County	Wewoka Seminole County	Yale-Jennings Payne-Pawnee-Creek Counties	Unclassified	Total Oklahoma (By THE OIL WEEKLY)	Total Oklahoma (By Government Sources)
1891					30	30	30
1892					80	80	80
1893					10	10	10
1894					130	130	130
1895					37	37	37
1896					170	170	170
1897					625	625	625
1898							
1899							
1900					6,472	6,472	6,472
1901					10,000	10,000	10,000
1902					37,100	37,100	37,100
1903					82,006	138,911	138,911
1904					714,269	1,366,748	1,366,748
1905					4,842,522	[C]8,264,000	[C]8,264,000
1906					12,871,894	[C]18,091,000	[C]18,091,000
1907					18,453,162	43,524,128	43,524,128
					20,343,305	45,798,765	45,798,765
1909					24,395,954	47,859,218	47,859,218
1910					26,898,834	52,028,718	52,028,718
1911					30,481,843	56,069,637	56,069,637
1912					32,762,395	51,427,071	51,427,071
1913					45,099,518	63,579,384	63,579,384
1914					30,205,699	73,631,724	73,631,724
1915					29,418,687	97,915,243	97,915,243
1916					37,424,914	107,071,715	107,071,715
1917					43,293,082	107,507,471	107,507,471
1918					50,636,628	103,347,070	103,347,070
1919					41,457,000	86,911,000	86,911,000
1920					69,706,000	106,206,000	106,206,000
1921				5,719,000	38,610,000	108,750,000	114,634,000
1922	1,324,000			6,405,000	25,609,000	139,553,000	149,571,000
1923	26,957,000		1,063,000	4,695,000	19,082,000	158,435,000	160,929,000
1924	22,691,000		3,299,000	3,908,000	23,159,000	171,628,000	173,538,000
1925	22,825,000	1,933,000	4,594,000	4,008,000	21,070,000	169,530,000	176,768,000
1926	13,866,000	1,103,000	9,463,000	5,249,000	24,402,000	174,891,000	179,195,000
1927	7,707,000	778,000	6,191,000	3,940,000	24,188,000	273,358,000	277,775,000
1928	4,940,000	163,000	2,436,000	3,024,000	24,162,000	242,413,000	249,857,000
1929	3,553,000		1,726,000	2,605,000	18,855,000	251,272,000	255,004,000
1930	2,545,050		1,447,950	2,828,050	21,749,900	218,107,160	216,486,000
1931	1,976,200		7,861,650	2,163,550	15,924,900	178,684,250	180,574,000
1932	1,841,900		2,028,250	2,070,200	17,071,500	148,473,200	153,244,000
1933	[J]948,500		1,602,950	1,901,250	19,238,900	176,421,450	182,251,000
1934			1,629,350	1,828,500	21,539,750	176,506,550	180,107,000
1935			1,337,400	1,732,350	20,717,050	181,152,000	185,354,000
Total	111,174,650	3,977,000	44,679,550	52,076,900	854,521,366	3,839,967,067	3,906,079,457

FOOTNOTES: [A] Shamrock included with Cushing beginning 1932.
[B] Glenn pool was discovered in 1905, and no figure available in 1906.
[C] Oklahoma shown with Kansas by *"Mineral Resources"* for 1905 and 1906, and figures shown here are based on division estimated by *Arnold and Kemnitzer*.
[D] Wheeler included with Healdton.
[E] Estimated by THE OIL WEEKLY.
[F] Burbank discovered in 1920. American Petroleum Institute figures shown above for 1921, 1922, and 1923 apparently put important production at Burbank under "Osage outside Burbank."
[G] Fox transferred under Graham in 1931.
[H] Blackwell includes Braman and Hubbard after August 12, 1933.
[J] Tonkawa-Garber-Thomas shown together beginning August 6, 1933.
[K] Subsequent production included with "unclassified."
[L] Asher, West Asher, and Davenport included with "Unclassified" after August 31, 1935.
[M] Edmund and Polo included with "Unclassified" prior to February 9, 1935.



A DREADNAUGHT CROWN BLOCK Helped Drill The Gulf Coast's DEEPEST WELL!



IN DRILLING the deepest Gulf Coast test well, Shell Petroleum Corporation's Jarnagin No. 1, at Roanoke, Louisiana, the **DREADNAUGHT** type KY Crown Block handled, safely, the heaviest loads encountered—with plenty of capacity to spare.

At the left is the **DREADNAUGHT** type PY Traveling Block, companion to the type KY Crown Block.

The center pins in both blocks are 7.873 inches in diameter, forged from special alloy steel. The 42-inch diameter sheaves are of wear-resisting manganese-molybdenum steel, with wire line grooves carefully *machined* to A.P.I. specifications. The Hyatt Roller Bearings used are rated at 120,000 pounds at 120 R.P.M., Alemite lubrication being provided for each bearing. The patented A-frame unitary type construction of the Crown Block distributes the load evenly, through the beams, to each derrick corner. The streamlined Traveling Block, having a low center of gravity, permits faster, safer operation.

When you get ready to explore the unexplored depths, reeve up a pair of DREADNAUGHT 300-ton capacity blocks—they have capacity to spare.

BEAUMONT IRON WORKS COMPANY

DN

Shell Petroleum Corporation's Jarnagin No. 1 at Roanoke, Louisiana. Abandoned at 10,750 feet.

Texas Crude Oil Production, by Districts, by Years

Complete Production History of State, in Barrels of 42 U. S. Gallons

(Sources.—Figures taken from total columns of District tables published along with this table.)

YEAR	South Central Texas	East and East Central Texas	Texas Gulf Coast	[L]North Texas	West Central Texas	South Texas	West Texas	[L]Texas Panhandle	Unclassified	Total Texas (by THE OIL WEEKLY)	Total Texas (byGovernment Sources)
1889	48									48	48
1890	54									54	54
1891	54									54	54
1892	45									45	45
1893	50									50	50
1894	60									60	60
1895	50									50	50
1896	[A]	[A]1,450	[A]							1,450	1,450
1897	[A]	[A]65,975	[A]							65,975	65,975
1898	[A]	[A]546,070	[A]							546,070	546,070
1899	[A]	[A]669,013	[A]							669,013	669,013
1900	[A]	[A]836,039	[A]							836,039	836,039
1901	[A]	[A]800,545	[A]3,593,113							4,393,658	4,393,658
1902	[B]	[B]617,871	[B]17,465,787	[B]	[B]	[B]	[B]			18,083,658	18,083,658
1903		501,960	17,453,582						30	17,955,572	17,955,572
1904		503,647	21,672,111	65,455					200	22,241,413	22,241,413
1905		444,420	27,615,877	75,592					300	28,136,189	28,136,189
1906		1,005,843	11,449,952	111,072					1,030	12,567,897	12,567,897
1907		823,208	11,400,209	83,260					16,019	12,322,696	12,322,696
1908		632,776	10,478,515	85,963					9,210	11,206,464	11,206,464
1909	[C]	[C]563,901	[C]8,765,488	113,485	[C]	[C]			[C]91,593	9,534,467	9,534,467
1910		[D]839,236	[D]7,800,366	126,531	[D]	[D]			[D]133,133	8,899,266	8,899,266
1911		[E]1,179,270	[E]7,272,481	1,068,544	[E]	[E]			[E]6,179	9,526,474	9,526,474
1912		[F]847,392	6,458,506	4,424,525		[F]	[F]		[F]4,634	11,735,057	11,735,057
1913		[G]703,698	5,823,606	[G]8,476,492	[G]	[G]			[G]5,682	15,009,478	15,009,478
1914		[H]596,674	10,615,282	[H]8,778,553	[H]68,191	[H]			[H]9,484	20,068,184	20,068,184
1915	[I]613,182	[I]504,149	[I]17,421,894	[I]6,183,808	159,514	[I]			[I]60,154	24,942,701	24,942,701
1916	432,695	415,963	18,297,679	8,139,531	310,756				47,982	27,644,605	27,644,605
1917	176,887	386,635	21,477,721	9,824,056	480,383				67,605	32,413,287	32,413,287
1918	137,159	360,825	21,422 277	11,772,787	4,932,060				124,923	38,750,031	38,750,031
1919	134,000	364,000	21,055,310	30,491,722	41,082,239					93,127,271	79,366,000
1920	222,000	372,000	25,721,992	33,080,707	39,985,688					99,382,387	96,868,000
1921	376,000	6,200,511	34,435,000	24,739,455	42,713,140					108,464,106	106,166,000
1922	816,700	36,247,105	35,379,800	20,001,480	28,092,975	5,000	34,010	[J]		120,577,070	118,684,000
1923	3,542,672	50,198,629	30,840,081	24,993,019	21,039,175	10,000	184,570	[J]		129,908,156	131,023,000
1924	12,486,369	48,730,061	26,098,098	27,051,021	14,847,795	195,000	1,539,895	[J]		130,948,239	134,522,000
1925	12,725,301	42,108,093	29,863,000	30,323,620	16,349,784	117,000	9,783,760	[K]27,518,084		168,788,642	144,648,000
1926	10,685,393	20,088,265	41,060,700	35,005,196	19,373,426	11,755,580	15,325,244	41,027,557		194,271,361	166,916,000
1927	8,261,951	12,232,503	46,837,001	30,968,218	22,273,919	3,297,769	52,439,286	24,829,784		201,140,431	217,389,000
1928	7,645,121	8,204,245	39,466,769	31,666,385	18,694,650	3,473,307	119,377,012	31,125,589		259,653,078	257,320,000
1929	21,066,089	6,927,466	47,398,652	34,334,773	18,439,136	6,068,524	133,258,385	33,109,595		300,602,620	296,876,000
1930	26,093,058	13,220,125	49,558,191	30,644,617	14,675,158	17,605,999	108,172,385	21,154,456		281,123,989	290,457,000
1931	17,996,720	128,545,474	38,553,757	21,237,338	9,088,236	17,339,371	77,548,724	18,253,096		328,562,716	332,437,000
1932	13,427,306	141,275,272	37,811,170	18,431,537	8,967,712	12,625,429	63,061,992	16,523,868		312,124,286	312,478,000
1933	10,800,534	224,571,703	56,811,890	18,147,187	9,556,562	13,142,395	54,085,846	20,312,075		407,428,192	402,609,000
1934	8,889,839	199,077,689	53,314,932	21,301,043	11,647,392	17,561,639	48,099,000	20,312,075		380,203,609	381,516,000
1935	7,967,350	194,115,650	59,090,100	21,717,250	11,420,550	23,288,500	53,817,400	21,611,550		393,028,350	391,483,000
Total	164,446,687	1,146,325,351	919,780,899	[L]512,564,222	354,198,440	126,485,513	736,727,509	[L]275,777,729	578,158	[L]4,236,884,508	4,188,308,005

[A] East and East Central district in 1896-1901 includes small production of South Central and Gulf Coast districts.

[B] Gulf Coast in 1902 includes limited production in South Central, East Central, North, West Central, South, and West Texas districts.

[C] In 1909 unclassified consisted of production in small fields in East Central, West Central, Gulf Coast, South, and South Central Texas districts.

[D] In 1910 unclassified consisted of production in small fields of West Central, East Central, Gulf Coast, and South Texas districts.

[E] In 1911 unclassified consisted of production in small fields in East Central, South, West Central, and Gulf Coast districts.

[F] In 1912 unclassified consisted of production in small fields located in East Central, South, and West Texas districts.

[G] In 1913 unclassified consisted of production in small fields in North, West Central, East Central, and South Texas districts.

[H] In 1914 unclassified consisted of production in small fields in North, West Central, East Central, and South Texas districts.

[I] In 1915 unclassified consisted of production in small fields in North, East Central, South, South Central, and Gulf Coast districts.

[J] Included below with first figure shown.

[K] Includes production of previous years marked "J".

[L] Totals for North Texas and Texas Panhandle are slightly different in this table from those in accompanying district tables for those districts. These differences are explained by revisions of records indicated in the district tables.

West Texas Crude Oil Production, by Fields, by Years

(Sources.—Except as otherwise indicated in footnotes, figures are from records of oil companies.)

YEAR	Addis-Odessa Ector County	Andrews County	Big Lake Shallow Regan County	Big Lake Deep Regan County	Church-Fields-McElroy Crane-Upton Counties	Cowden Ector County	Harper Ector County	[G]Howard Glasscock Counties	Ira Scurry County	Judkins (Penn-Connell) Ector County	McCamey Taylor Upton-Crane Counties	Means Andrews County	Mertzon Irion County	Pecos Valley Pecos County	Phillips-Pryor Pecos County
[A]1902-1920															
1921															
1922															
1923			[E]18,425												
1924			[E]1,078,796						B						
1925			[E]8,981,545						B		B				
1926			[F]11,243,225		467,043			102,162	B	675	[C]1,907,445				
1927			9,043,685		23,828,460			1,159,406	E	2,753	7,507,722				
1928			6,814,069	26,694	20,880,837			4,907,263	B	2,872	4,677,712			1,275	
1929			5,651,777	923,751	13,773,314			15,098,997	[D,C]29,079	14,095	3,477,928		B	40,792	[D]3,120
1930			4,452,782	2,756,775	11,610,260	7,168		11,314,178	[D]8,586	3,177,095	2,881,626		[C]28,560	77,773	
1931			3,256,859	6,424,701	6,350,901	22,319		9,846,644	[D]11,430	2,414,268	1,881,990		21,437	69,119	
1932			3,100,135	5,692,192	5,663,400	20,375		6,650,645	[D]9,514	1,606,618	1,524,996		10,382	101,973	[D]2,418
1933	113,011	13,996	2,416,757	4,234,773	4,631,855	114,057	6,570	5,455,973	[D]8,737	1,724,791	1,476,413		7,633	80,347	7,535
1934	191,838	174,234	2,060,908	2,488,054	4,482,036	385,658	24,662	5,617,192	[D]8,973	1,998,946	1,534,100	22,572	8,797	60,005	1,484
[K]1935	N	[L]284,100	P	[F]3,638,900	6,177,250	N	N	6,906,700	O	[N]3,574,300	S		R	Q	Q
Total	304,849	472,330	58,118,957	[P]26,185,840	97,865,356	549,577	31,232	67,059,070	76,319	[N]14,516,413	26,878,932	22,572	76,809	430,384	14,557

See Footnote, page 94.

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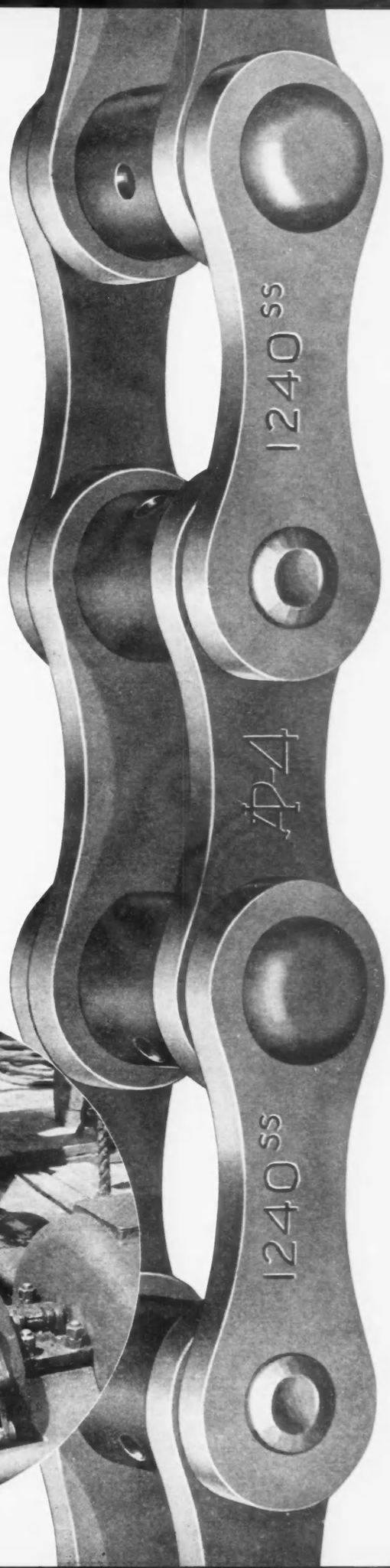

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West Texas Crude Oil Production, by Fields, by Years—(Continued)

Complete Production History of District, in Barrels of 42 U. S. Gallons

(Sources.—Except as otherwise indicated in footnotes, figures are from records of oil companies.)

YEAR	Rowan-Tong Pecos County	Sayre Winkler County	Skelly-Grayson Regan County	Taylor-Link Pecos County	Toborg Pecos County	Todd Crockett County	Waddell-Tubb Crane County	[I]Ward County	Westbrook-Iatan Mitchell County	Wheat Loving County	[J]Winkler County Unclassified	World Crockett County	Yates Pecos-Crockett Counties	Total West Texas
[A]1902–1920														[A]
1921									[H]					[H]
1922									[E]34,010					34,010
1923									[E]166,145					184,570
1924									[E]461,105					1,539,895
1925									[E]798,895			[E]3,320		9,783,760
1926							[B]		1,264,845	2,168	5,178	326,718	5,785	15,325,244
1927							[C]2,993		1,514,557	17,282	3,650,295	614,071	5,098,062	52,439,286
1928			[B]				7,212	1,256	1,087,127	59,953	57,746,889	991,456	22,172,397	119,377,012
1929	1,526		[C]59,414	551,092			15,252	438,162	960,381	251,683	50,050,973	790,448	41,126,601	133,258,385
1930			59,537	1,497,773	463,799		11,365	908,537	808,487	670,078	26,448,867	635,485	40,353,654	108,172,385
1931			48,292	499,991	591,544		12,728	1,248,519	669,171	1,250,774	15,354,427	510,315	27,063,295	77,548,724
1932			44,065	286,900	502,207	[A]	10,605	1,923,337	578,239	1,125,145	10,767,947	415,418	23,026,381	63,061,992
1933			43,628	239,835	458,360	[A]	5,112	2,703,353	728,587	924,423	8,138,602	304,127	20,247,371	54,085,846
1934		12,055	65,257	376,431	474,077	12,133	12,029	3,581,047	820,904	794,315	7,378,973	242,406	15,261,004	48,099,000
[K]1935		[B]	[P]	[Q]1,158,600	[Q]	[M]	[S]	5,996,900	[O]837,500	[R]1,854,000	7,790,300	[M]328,900	15,269,950	53,817,400
Total	1,526	12,055	320,193	[N]4,610,622	2,489,987	12,133	77,296	16,801,111	[O]10,729,953	[R]6,949,821	187,332,451	[M]5,162,664	209,624,500	736,727,509

[A] The annual volumes of *Mineral Resources* embodied the following information, in addition to above figures: in 1902 oil and gas showings and small production (no records available) were reported in Brewster County, six miles east of Terlingua; in El Paso County, 20 miles north of Van Horn; in Pecos County, 15 miles northeast of Fort Stockton; in Reeves County, in the Pecos River Valley, nine miles north of Toyah. In 1912 there was again a similar report for Brewster County. In 1917 gas production was reported in Tom Green County, on the Harris Ranch, six miles north of San Angelo.

[B] Production included below with first figure shown.

[C] Includes production of previous years marked "B".

[D] From annual volumes of *Yearbook* of National Oil Scouts' Association.

[E] Based on figures compiled weekly by THE OIL WEEKLY; the yearly figures having been published originally in annual statistical issues.

[F] Based on weekly reports of the American Petroleum Institute, the yearly figures having been calculated by THE OIL WEEKLY and published in annual statistical issues.

[G] Howard-Glasscock Counties represent the field consisting of the following closely pools: Chalk, discovered 1926; Settles, discovered 1927; Roberts; Phillips Coffee; Kirby; Deman; McDowell, discovered 1929; and others.

[H] Small production but no record available.

[I] Ward County includes: Shipley-Monroe pool, discovered 1928; and Bennett, Grand Falls, Hayzlett, and O'Brien-Hutchings, all discovered in 1929.

[J] Winkler County unclassified includes Kermit (Hendrick) field, discovered in 1926; Leck; Scarbrough; and Richardson-O'Brien, discovered in 1933.

[K] For 1935 all figures calculated by THE OIL WEEKLY from weekly reports of the American Petroleum Institute.

[L] Production included with Wheat prior to September 1, 1935.

[M] For 1935 World figure includes all of Crockett County.

[N] For 1935 Judkins (Penn Connell) field includes all of Ector County.

[O] For 1935 Westbrook-Iatan represents Iatan-East Howard and Mitchell-Scurry production.

[P] For 1935 Big Lake Deep production also includes all other production of Reagan County.

[Q] For 1935 Taylor-Link includes all Pecos County production outside Yates field.

[R] For 1935 Wheat pool includes production of the various small and new West Texas fields for which figures are not shown here.

[S] For 1935 Church-Fields-McElroy includes all production of Crane-Upton Counties.

West Central Texas Crude Oil Production, by Counties and Fields, by Years

YEAR	Brown County Brownwood	Callahan County	Coleman County	Desdemona Field Eastland-Erath-Comanche Counties	Fisher County Stephens Field	Haskell County Southeast Corner	Jones County Stebbins-Swann-Nugent-Hawley	Palo Pinto County Strawn Field	Ranger North Half Eastland County
1902	[A]		[A]					[A]	
1903–1908									
1909	[A]								
1910	[A]		[H]						
1911	[A]		[H]						
1912			[H]						
1913	[A]		[H]					[A]	
1914			[H]					[A]	
1915			[H]					[C]50,498	
1916		Gas	[H]					[C]175,147	
1917	[C]6,041		[H]					[C]340,950	[C]29,055
1918	[C]222,778		[H]	[A]				[C]278,634	[C]3,784,434
1919	[F]213,526		[H,F]465,209	[F]7,375,823				[F]101,300	[F]22,379,665
1920	[F]114,666		[F]83,779	[F]5,097,582				[F]512,758	[F]10,141,383
1921	[F]122,475		[F]66,190	[F]2,467,115				[F]261,695	[F]5,887,420
1922	[F]224,980		[F]34,915	[F]3,488,755				[F]602,180	[F]4,785,315
1923	[F]222,655	[A]	[F]48,465	[F]2,761,735				[F]402,920	[F]3,764,085
1924	[F]193,750	[F]90,650	[F]45,310	[F]2,572,975				[F]322,605	[F]2,627,475
1925	[F]760,285	[F]1,285,215	[F]60,199	[G]938,900				[F]228,000	[G]2,786,800
1926	[E]3,714,771	[D]1,468,177	[D]90,310	[G]687,700			118,099	[D]150,320	[G]2,132,150
1927	7,412,888	1,603,780	433,852	522,467			636,338	175,031	2,656,691
1928	4,208,914	1,344,561	1,025,425	422,547	186,501		903,933	158,633	2,210,134
1929	3,180,130	1,440,615	1,791,956	395,090	387,721	23,498	1,249,125	176,384	1,934,905
1930	2,249,797	1,196,818	1,219,260	352,754	432,400	17,480	539,771	204,870	1,565,811
1931	1,214,594	592,932	710,843	244,158	287,337	8,729	474,435	122,578	1,068,656
1932	956,662	656,055	897,030	291,696	240,442	12,161	462,269	145,895	943,789
1933	851,447	631,516	617,134	291,336	963,867	10,136	679,333	130,788	904,595
1934	821,618	615,656	496,197	238,524	1,625,403	8,173	669,199	130,475	1,002,957
1935[L]	711,150	582,250	497,850	1,149,050	[K]2,594,250		[K]	498,350	
Total	27,403,127	11,508,225	8,583,924	29,298,207	[K]6,717,921	80,177	[K]5,732,502	[J]4,779,011	70,605,320

GENERAL NOTE: In addition to figures shown in this table, the following information is available on the district, being from annual volumes of *Mineral Resources*: Small oil production (no records available) was reported in 1902 near Gatesville, Coryell County; in 1912 and 1913 in McCulloch County; in 1917 near Millsap, Parker County, where gas had been reported the previous year.

[A] Small production, but no record available.

[B] Production at Sipe Springs in 1919-1925 included with 1926.

[C] From annual volumes of *Mineral Resources*.

[D] Based on weekly reports of the American Petroleum Institute, the yearly figures having been calculated by THE OIL WEEKLY and published originally in the annual statistical issues.

[E] Calculated with aid of oil company records.

[F] Based on figures compiled weekly by THE OIL WEEKLY; the yearly figures having been published originally in annual statistical issues.

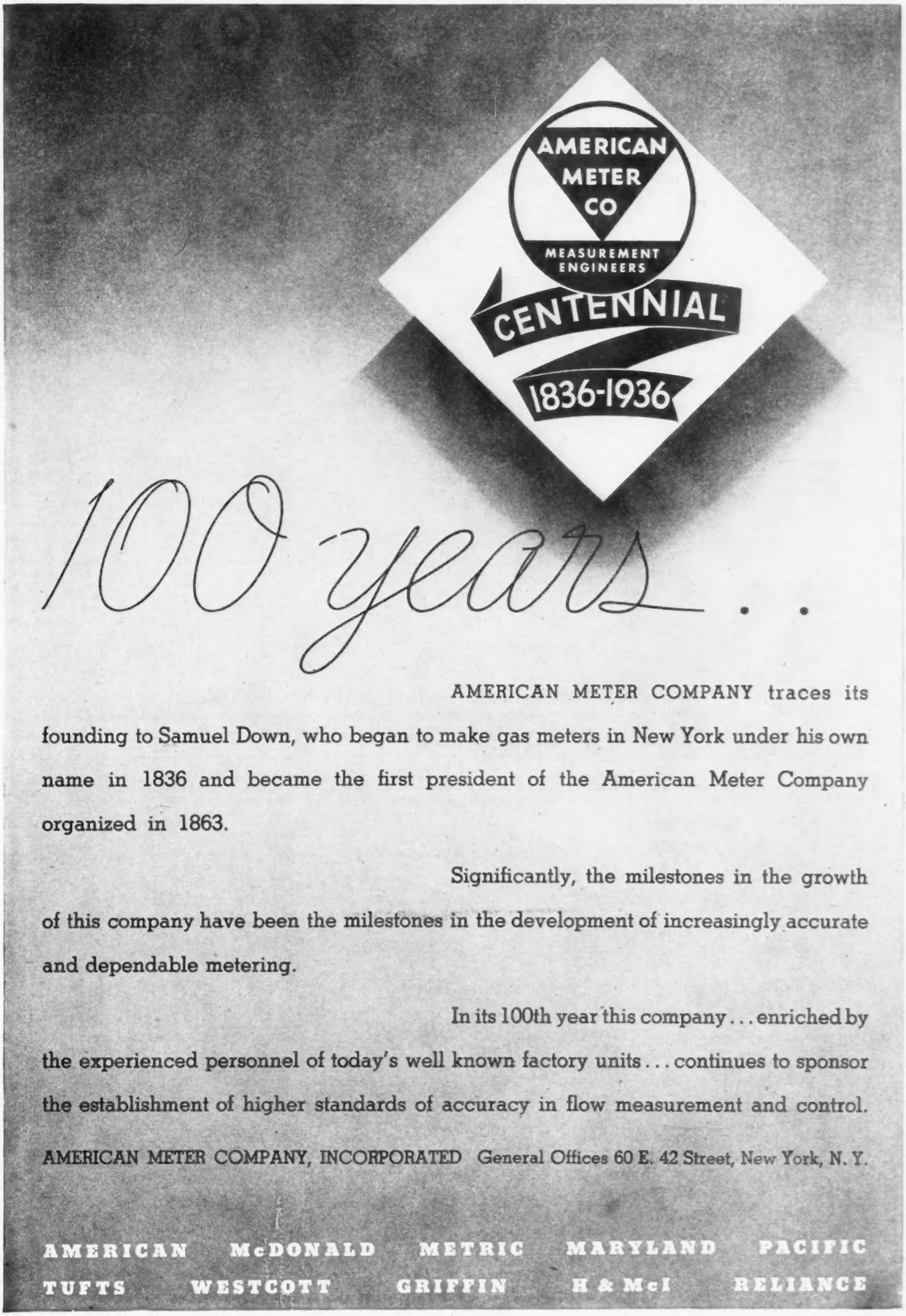
[G] Desdemona and Ranger for 1925 and 1926 from American Petroleum Institute's publication, *Petroleum Facts and Figures*, First Addition.

[H] Coleman County figure of 465,209 barrels shown here for 1919 includes [F]46,590 barrels for the year 1919 and 418,619 barrels for 1910-1918, latter figure having been obtained with aid of oil company records

[I] For 1935 all figures calculated by THE OIL WEEKLY from weekly reports of the American Petroleum Institute.

[J] Production of Palo Pinto County and Throckmorton County (South Half) included with "Unclassified" after August 31, 1935.

[K] Fisher County includes production of Jones County for 1935.



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West Central Texas Crude Oil Production, by Counties and Field, by Years—(Continued)

Complete Production History of District, in Barrels of 42 U. S. Gallons

(Sources.—Except as otherwise indicated in footnotes, figures are from records of oil companies.)

YEAR	Runnels County McMillen Field	Shakleford County Moran and Other Fields	Sipe Springs Comanche County	Stephens County Breckenridge	Taylor County Taylor field	Throckmorton County South Half	Young County South Half	Unclassified	Total West Central Texas
1902									[A]
1903-1908									
1909									[A]
1910		[A]							[A]
1911									[A]
1912									
1913		[A]							[A]
1914		[C]68,191							68,191
1915		[C]109,016							159,514
1916		[C]135,608		[A]					310,755
1917		[C]68,118		[C]36,219			[A]		480,383
1918		[C]47,777		[C]598,437			[A]		4,932,060
1919		[F]32,500	[B]	[F]10,514,216					41,082,239
1920		[F]48,575	[B]	[F]23,852,050			[F]134,895		39,985,688
1921		[F]50,455	[B]	[F]31,037,710			[F]2,820,080		42,713,140
1922		[F]308,545	[B]	[F]14,924,980			[F]3,723,305		28,092,975
1923		[F]1,426,180	[B]	[F]10,062,055			[F]2,351,080		21,039,175
1924		[F]1,267,500	[B]	[F]7,129,230		[A]	[F]598,300		14,847,795
1925		[F]1,084,675	[B]	[F]5,729,035		[F]44,355	[F]3,432,320		16,349,784
1926		[D]2,602,600	[B]1,038,675	[D]4,414,270		[F]179,774	[D]2,767,580		19,373,426
1927	7,740	2,897,706	54,801	3,173,737		563,813	2,135,075		22,273,919
1928	38,809	3,670,523	42,723	2,620,858		426,258	1,434,831		18,694,650
1929	20,173	4,071,792	47,235	2,367,004	3,380	252,096	1,098,032		18,439,136
1930	10,279	2,305,052	45,523	1,993,953	19,051	305,133	2,217,206		14,675,158
1931	30,204	1,202,239	31,488	1,597,868	28,208	152,943	1,321,024		9,088,236
1932	23,670	1,440,864	22,448	1,418,046	24,259	194,909	1,237,517		8,967,712
1933	80,512	1,171,014	21,045	1,869,007	25,099	230,963	1,078,770		9,556,562
1934	362,513	2,011,827	22,550	2,009,692	39,839	241,147	1,351,622		11,647,392
1935[I]		2,051,050		1,848,850		[J]121,400	1,398,750	367,600	11,420,550
Total	573,900	28,071,807	1,326,488	127,197 217	139,836	[J]2,712,791	29,100,387	367,600	354,198,440

GENERAL NOTE: In addition to figures shown in this table, the following information is available on the district, being from annual volumes of *Mineral Resources*: Small oil production (no records available) was reported in 1902 near Gatesville, Coryell County; in 1912 and 1913 in McCulloch County; in 1917 near Millsap, Parker County, where gas had been reported the previous year.

[A] Small production, but no record available.

[B] Production at Sipe Springs in 1919-1925 included with 1926.

[C] From annual volumes of *Mineral Resources*.

[D] Based on weekly reports of the American Petroleum Institute, the yearly figures having been calculated by THE OIL WEEKLY and published originally in the annual statistical issues.

[E] Calculated with aid of oil company records.

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[G] Desdemona and Ranger for 1925 and 1926 from American Petroleum Institute's publication, *Petroleum Facts and Figures*, First Addition.

[H] Coleman County figure of 465,209 barrels shown here for 1919 includes [F]46,590 barrels for the year 1919 and 418,619 barrels for 1910-1918, latter figure having been obtained with aid of oil company records

[I] For 1935 all figures calculated by THE OIL WEEKLY from weekly reports of the American Petroleum Institute.

[J] Production of Palo Pinto County and Throckmorton County (South Half) included with "Unclassified" after August 31, 1935.

[K] Fisher County includes production of Jones County for 1935.

South Texas Crude Oil Production, by Fields, by Years

Year	Agua Dulce Nueces County	Albercas Webb County	Alworth Zapata-Jim Hogg Counties	Angelita San Patricio County	Aviator Webb County	Baldwin Nueces County	Barbacoas Starr County	Burnell Karnes County	Caesar Bee County	Calliham McMullen County	Calliham South McMullen County	Carolinas-Texas Webb County	Charco Redondo Zapata County	Cole and West Cole Webb-Duval Counties	Coleto Creek Victoria County
1918															
1919										Gas			[K]		
1920										Gas			[K]		
1921										Gas		[A]	[K]		
1922					[A]					[K]		[A]	[K]		
1823					[A]					[K]		[A]	[K]		
1924					[A]					[C]187,000		[A]	[K]	Gas	
1925					[A]					[C]98,000		[A]	[K]	Gas	
1926					[B]2,193,186					[C]52,000		[B]15,805	4,546	128,593	
1927			Gas		843,444					[C]29,000		9,156	10,303	14,771	
1928		722,512	Gas		542,462					[C]24,000		7,304	31,541	502,310	
1929		940,452	10,875		430,060					[C]20,000		32,350	40,122	563,447	
1930	[I]800	307,442	5,447		338,597					[C]12,000		57,658	20,714	489,334	
1931	[I]18,341	169,698	7,580		280,529					7,861		39,882	12,571	440,960	
1932	3,472	111,318	3,249		229,265					11,625		26,218	9,407	485,915	
1933	8,099	66,923	1,686		198,364					29,459		24,503	2,474	354,179	
1934	99,509	51,030	1,214	22,782	174,844		3,571			15,318		25,841	4,415	416,971	16,192
1935 [N]	[O]436,150	[P]	[P]	[O]	[P]	[O]	[O]	[O]	[S]	[O]	[O]	[P]	[P]	[P,Q]	
Total	[O]566,371	2,369,375	30,051	22,782	5,230,751		3,571			486,263		238,717	136,093	3,396,480	16,192

GENERAL NOTE: In addition to figures shown in this table, the following information is available on the district, being from annual volumes of *Mineral Resources*: Small oil production (no records available) was reported at Crowther, McMullen County, in 1901, 1902, 1914, 1915, 1917, 1918; in Live Oak County, 12 miles north of Oakville, in 1902; on the King Ranch, Nueces County, in 1902; Piedras Pintas, Duval County, in 1902, 1907-1918; in Jackson County in 1905; gas found in the Reiser Gas Field, Zapata County, in 1914; and gas also at White Point, San Patricio County, in 1914 and 1917.

[A] Included below with first figure shown.

[B] Includes previous years marked "A".

[C] From annual volumes of *Mineral Resources* and *Minerals Yearbook*.

[D] Refugio Light oil includes adjacent Fox pool.

[E] Mirando City comprises area formerly subdivided as three pools: Mirando City-Schott, Mid-Ojuelos, and Wolcott.

[F] Pettus area comprises McKinney, Pettus Townsite, Damac, Cosden, Grayburg, Tuleta, and other pools.

[G] From *Yearbook* (1933 and 1935) of National Oil Scouts' Association.

[H] Main or Middle Government Wells pool was discovered in 1928; South Government Wells in November, 1930; North Government Wells in 1932; and Northwest Government Wells in 1933.

[I] From *Yearbook* (1931 and 1932) of National Oil Scouts' Association.

[J] Estimated with aid of *Yearbook* (1931) of National Oil Scouts' Association.

[K] Small production but no record available.

[L] White Point had first drilling in 1904; gas blowouts and craters as early as about 1911.

[M] Palangana and Piedras Pintas salt domes were known and prospected as early as about 1910.

[N] All figures for 1935 calculated by THE OIL WEEKLY from weekly reports of the American Petroleum Institute.

[O] Agua Dulce figures for 1935 represent all "Unclassified" production of district, embracing small and new fields for which separate figures are not shown.

[P] For 1935 all Laredo District production outside Duval County is grouped under "Laredo District Outside Duval Co."

[Q] For 1935 all Duval County production is grooped under "Duval County."

[R] For 1935 Refugio Heavy includes Refugio Light.

[S] For 1935 Pettus includes all pools of Bee County.

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South Texas Crude Oil Production, by Fields, by Years—(Continued)

Complete Production History of District, in Barrels of 42 U. S. Gallons

(Sources.—Except as otherwise indicated in footnotes, figures are from records of oil companies.)

Year	Coleman Duval County	Comitas Zapata County	Crowther McMullen County	Cuellar Zapata County	Cuevitas Starr County	Dinero Live Oak County	Dirks Bee County	Driscoll Duval County	Duval County	Eagle Hill Duval County	Escobas Zapata County	Foley Bee County	Fordtran Victoria County	[D]Fox Refugio County	Goliad County
1918			[A]												
1919			[A]												
1920			[A]												
1921			[A]												
1922			[A]												
1923			[A]												
1924			[A]												
1925			[A]												
1926			[A]												
1927			[A]					[K]							
1928			[A]	30,103				[K]							
1929			[I, B]25,000	205,508				66,559			[K]				
1930				814,553				108,466			690,101				
1931				822,016				86,819			1,047,366				
1932				324,254				66,608			1,483,437				
1933				110,568	1,960			54,168		18,622	895,393				
1934		549		50,790	73,297			43,770		185,964	781,848				
1935 [N]	Q	P	O	P	O	O	S	Q	10,105,250	Q	P	S	O	D	O
Total		549	25,000	2,357,792	75,257			426,390	10,105,250	204,586	4,898,145				

Year	[H] Government Wells Fields Duval County	Greta Refugio County	Hagist Duval County	Henne-Winch Fariss Jim Hogg County	Hoffman Duval County	Ignacio Duval County	Jacob McMullen County	Keeran Victoria County	Kimble	Kingsville Kleberg County	Kohler Duval County	Labbe Duval County	Laredo District Outside Duval Co.	Laurel Webb County	Leaseholders Webb County
1918															
1919															
1920															
1921															
1922															[J]5,000
1923															[J]10,000
1924				[A]											[J]8,000
1925				[A]											[J]2,000
1926				[B]2,320,621						50,159	[K]				
1927				506,438						146,131	5,786				
1928	35,637			188,471						152,567	24,637				
1929	552,004			89,966						119,610	39,808				
1930	557,283			46,517						38,748	101,338				
1931	1,566,005			19,282						40,469	85,875				
1932	2,795,672			8,226			44,202	45,458		27,828	56,208			134,365	
1933	4,180,240	1,216,624		3,752			122,873	96,062		25,844	52,454			341,213	
1934	6,539,981	3,913,756		11,865			203,878	101,434	1,157	23,363	46,836			79,982	
1935 [N]	Q	4,704,800	Q	P	Q	Q	O	O	O	O	Q	Q	2,576,800	P	P
Total	16,226,822	9,835,180		3,195,138			370,953	242,954	1,157	624,719	412,942		2,576,800	555,560	25,000

Year	Loma Alto McMullen County	Loma Novio Duval County	Lopena Zapata County	Lopez Duval County	Los Olmos Starr County	Lucas Live Oak County	Lucas North Live Oak County	McFadden Victoria County	McNeill Live Oak County	Manda Travis County	Martinez Zapata County	Maurits Jackson County	Mercedes Hidalgo County	Mestinas Hidalgo County	[E]Mirando City Webb County
1918															
1919															
1920															
1921															
1922															[A]
1923						Gas									[A]
1924						Gas									[A]
1925					Gas	Gas									[A]
1926					Gas	Gas									[B]5,553,311
1927					Gas	Gas									629,680
1928					Gas	Gas									489,235
1929					Gas	Gas									423,827
1930					Gas	Gas		Gas							322,113
1931					[I]2,100	12,675		Gas							270,241
1932					98,793	25,834		13,400							254,429
1933					153,054	19,614		8,105							217,734
1934		471			93,632	29,554		6,912	13,489						163,100
1935 [N]	O	Q	P	Q	O	O	O	O	O	O	F	O	O	O	P
Total		471			347,579	87,677		28,417	13,489						8,323,670

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South Texas Crude Oil Production, by Fields, by Years—(Continued)

Complete Production History of District, in Barrels of 42 U. S. Gallons

(Sources.—Except as otherwise indicated in footnotes, figures are from records of oil companies.)

Year	Mirando Valley	Moca	Norman na	O'Connor	[M]Palangana	Pearsall	[F]Pettus	[M]Piedras Pintas	Placedo	Plymouth	Port Lavaca	Randado	Refugio: Heavy Oil	[D]Refugio: Light Oil	Rio Grande City
	Zapata County	Webb County	Bee County	Refugio County	Duval County	Frio County	Bee County	Duval County	Victoria County	San Patricio County	Calhoun County	Jim Hogg County	Refugio County	Refugio County	Starr County
1918	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1919	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1920	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gas	.....	.....
1921	[A]	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gas	.....	.....
1922	[A]	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gas	.....	.....
1923	[A]	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gas	.....	.....
1924	[A]	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gas	.....	.....
1925	[A]	.....	.....	.....	.....	.....	.....	[C]17,000	.....	.....	.....	[A]	Gas	.....	.....
1926	[B]458,335	.....	.....	.....	.....	.....	.....	[C]93,000	.....	.....	.....	[B]886,024	Gas	.....	.....
1927	32,186	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,070,874	Gas	.....	.....
1928	27,656	.....	.....	.....	3,281	.....	Gas	.....	.....	.....	.....	630,306	61,285	.....	.....
1929	25,984	.....	Gas	.....	350	.....	Gas	.....	.....	.....	.....	488,892	1,963,235	29,719	.....
1930	18,039	.....	[I]7,106	.....	.....	.....	[I]1,638,315	.....	.....	.....	.....	344,239	9,554,085	2,106,387	.....
1931	15,609	.....	[I]9,879	1,000	.....	.....	[I]2,408,993	.....	.....	.....	.....	248,878	4,440,117	5,648,006	.....
1932	12,957	[E]	[G]9,247	10,680	.....	.....	1,836,020	.....	.....	.....	.....	183,064	1,899,183	1,601,890	17,928
1933	11,578	100,579	[G]7,404	12,000	.....	.....	1,221,074	.....	.....	.....	.....	140,767	1,079,086	1,044,328	31,510
1934	10,684	115,855	[G]4,050	111,153	.....	.....	1,100,451	18,531	.....	.....	485	139,072	668,603	758,710	24,385
1935 [N]	P	P	S	O	.....	O	[S]2,048,700	Q	O	O	O	P	[R]1,431,200	R	O
Total	613,028	216,434	37,686	134,833	3,631	.....	[S]10,253,553	128,531	.....	.....	485	4,132,116	[R]21,096,794	[R]10,589,040	73,823

YEAR	Roma	Rutledge	Samfordyce	Sarnosa	Saxet	Seeligson	Seven Sisters	Sinton	Slick	S.R.C.	Tom-oconnor	Vanderbilt	West Tuleta	[L]White Point	Tota South Texas
	Starr County	Bee County	Starr-Hidalgo Counties	Duval County	Nueces County	Jim Wells County	Duval County	San Patrico County	Goliad-DeWitt Counties	Duval County	Refugio County	Jackson County	Bee County	San Patricio County	
1918	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[K]
1919	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	gas	[K]
1920	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	gas	[K]
1921	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	gas	[K]
1922	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	gas	5,000
1923	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	gas	10,000
1924	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	gas	195,000
1925	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	gas	117,000
1926	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	gas	11,755,580
1927	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	gas	3,297,769
1928	gas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	gas	3,473,307
1929	756	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	gas	6,068,524
1930	3,353	.....	.....	.....	[I]9,370	.....	.....	.....	[K]	12,914	.....	.....	.....	[I]1,080	17,605,999
1931	1,022	.....	.....	.....	[I]151,486	.....	.....	.....	15,625	54,118	.....	.....	.....	[I]14,368	17,339,371
1932	4,000	.....	.....	194,599	496,560	.....	.....	.....	27,605	53,490	.....	.....	.....	19,023	12,625,429
1933	3,720	.....	.....	353,582	876,063	1,400	.....	.....	10,504	28,633	.....	.....	.....	16,300	13,142,395
1934	2,252	.....	165,794	336,636	750,189	1,850	.....	6,323	1,113	34,417	39,320	64,575	.....	9,876	17,561,639
1935 [N]	O	S	936,600	Q	1,049,000	O	Q	O	O	Q	O	O	S	O	23,288,500
Total	15,103	.....	1,102,394	884,817	3,332,668	3,250	.....	6,323	54,847	183,572	39,320	64,575	.....	60,547	126,485,513

GENERAL NOTE: In addition to figures shown in this table, the following information is available on the district, being from annual volumes of *Mineral Resources*: Small oil production (no records available) was reported at Crowther, McMullen County, in 1901, 1902, 1914, 1915, 1917, 1918; in Live Oak County, 12 miles north of Oakville, in 1902; on the King Ranch, Nueces County, in 1902; Piedras Pintas, Duval County, in 1902, 1907-1918; in Jackson County in 1905; gas found in the Reiser Gas Field, Zapata County, in 1914; and gas also at White Point, San Patricia County, in 1914 and 1917.

[A] Included below with first figure shown.

[B] Includes previous years marked "A".

[C] From annual volumes of *Mineral Resources* and *Minerals Yearbook*.

[D] Refugio Light oil includes adjacent Fox pool.

[E] Mirando City comprises area formerly subdivided as three pools: Mirando City-Schott, Mid-Ojuelos, and Wolcott.

[F] Pettus area comprises McKinney, Pettus Townsite, Damac, Cosden, Grayburg, Tuleta, and other pools.

[G] From *Yearbook* (1933 and 1935) of National Oil Scouts' Association.

[H] Main or Middle Government Wells pool was discovered in 1928; South Government Wells in November, 1930; North Government Wells in 1932; and Northwest Government Wells in 1933.

[I] From *Yearbook* (1931 and 1932) of National Oil Scouts' Association.

[J] Estimated with aid of *Yearbook* (1931) of National Oil Scouts' Association.

[K] Small production but no record available.

[L] White Point had first drilling in 1904; gas blowouts and craters as early as about 1911.

[M] Palangana and Piedras Pintas salt domes were known and prospected as early as about 1910.

[N] All figures for 1935 calculated by THE OIL WEEKLY from weekly reports of the American Petroleum Institute.

[O] Agua Dulce figures for 1935 represent all "Unclassified" production of district, embracing small and new fields for which separate figures are not shown.

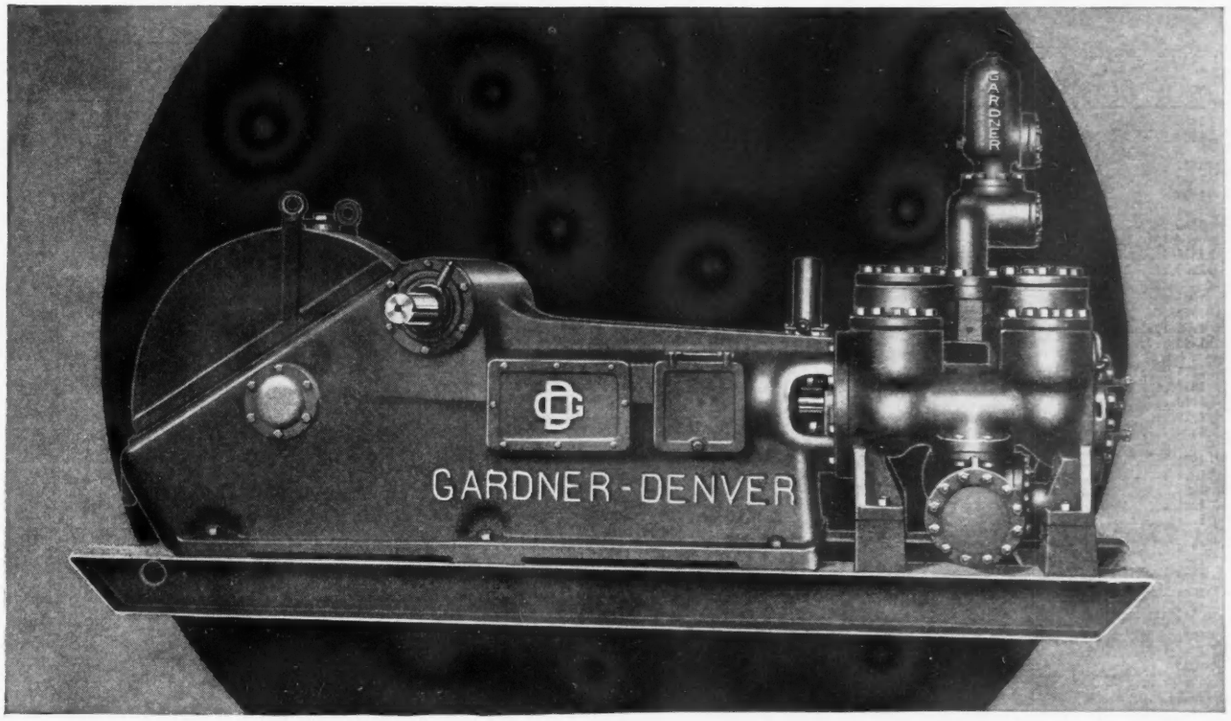
[P] For 1935 all Laredo District production outside Duval County is grouped under "Laredo District Outside Duval Co."

[Q] For 1935 all Duval County production is grouped under "Duval County."

[R] For 1935 Refugio Heavy includes Refugio Light.

[S] For 1935 Pettus includes all pools of Bee County.

COMPLETING A LINE OF FINE POWER PUMPS



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● Scientifically reinforced one-piece frame... with integral crosshead guides, main bearing supports and reinforcing ribs placed where stresses from shock loads are greatest.

● Mudproof crankcase . . . obtained by combination of oil-stop and mud-stop heads . . . design eliminates necessity of opening crankcase when changing liners and pistons.

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GARDNER-DENVER

South Central Texas Crude Oil Production, by Fields, by Years

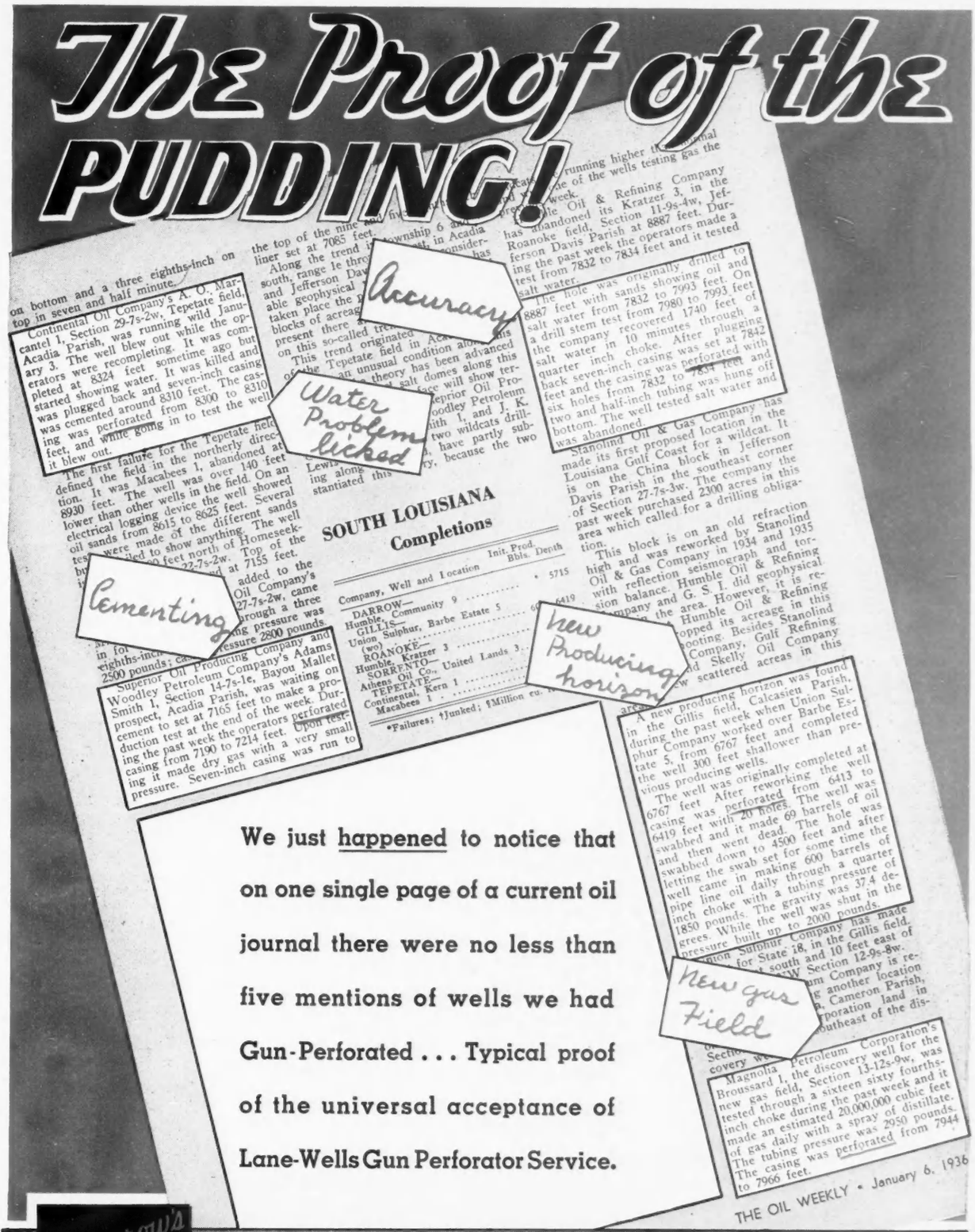
Complete Production History of District, in Barrels of 42 U. S. Gallons

(Sources.—Except as otherwise indicated in footnotes, figures are from records of oil companies.)

YEAR	Alta Vista Bexar County	Bastrop County Near Elgin	Bexar County Unclassified	Branyon Caldwell County	Buchanon Caldwell County	Byersville Williamson County	Carrol Estate Bastrop County	Cedar Creek Bastrop County	Chacon Lake Medina County	Chapman Williamson County	Cooksey Bexar County	Dale and North Dale Caldwell County	[J]Darst Creek-Manford Guadalupe County	Darst Creek South Guadalupe County	Dulnig Ranch Bexar County
1889															[F]48
1890															[F]54
1891															[F]54
1892															[F]45
1893															[F]50
1894															[F]60
1895															[F]50
1896–1899															[A]
1900		[A]													
1901		[A]													
1902		[A]													
1903–1914															
1915	[A]		[A]												
1916	[A]														
1917	[A]														
1918			[A]												
1919															
1920															
1921															
1922															
1923															
1924															
1925															
1926															
1927												60,318			
1928				13,890								306,373			
1929				10,521	7,328							172,157	[F]243,000		
1930	[I, D]40,000			9,379	56,347					1,775,503	[I]1,722	109,963	[F]11,552,000		
1931				4,475	[I]30,041					1,169,585	[I]4,496	93,266	[F]8,196,000		
1932				9,651	23,383					430,610	26,646	78,203	[F]6,084,000		
1933				11,362	17,720		1,355	11,273		262,615	13,346	163,047	[F]4,565,000		
1934				10,291	17,012	68,108	7,542	134,187	3,538	197,519	6,020	278,428	3,347,694		
1935 [L]	[N]600,000									[M]100,850		[M]116,200	3,276,500		
Total	[N]640,000			69,569	151,831	68,108	8,897	145,460	3,538	[M]3,936,682	52,230	[M]1,377,955	37,264,194		361

YEAR	Dunlap Caldwell County	Eckert Bexar County	Hilbig Bastrop County	Hondo-Taylor Medina County	Ina Medina County	Kimbro Travis County	Larremore Caldwell County	Lockhart Caldwell County	Lone Oak Bexar County	Luling Caldwell County	Lytton Springs Caldwell County	[J]Manford Guadalupe County	Medina County Unclassified	Minerva-Rockdale Milam County	Mission Bexar County
1889															
1890															
1891															
1892															
1893															
1894															
1895															
1896–1899															
1900								[A]							
1901								[A]					[A]		
1902								[A]					[A]		
1903–1914															
1915															
1916															
1917															[A]
1918															
1919															
1920															
1921														[A]	
1922														[K]93,600	
1923					[B]					[F]2,248,000				[K]230,462	
1924					[B]					[F]11,134,000				[K]218,439	
1925				[B]	[B]					[F]8,979,000	[F]2,603,000			253,366	
1926				[B]	[B]					[F]7,699,000	[F]1,783,000			348,266	
1927				[B]	[B]					[F]6,169,000	[F]784,000			481,162	
1928		1,000		[B]	[B]		37,388			[G]5,152,465	[F]846,000			308,800	
1929		10,000		[C, I]12,079	[C, I]114,837		64,627			[F]4,948,000	[F]600,000	[J]		290,000	
1930		[I]49,000		[I]2,921	[I]5,163		20,221			[F]3,692,000	[F]489,000	[J]		213,852	[I, D]18,000
1931	[I]2,673	[I]71,536		[I]2,920	[I]5,110		19,513			[F]2,964,000	[F]378,000	[J]		134,150	
1932	164,339	102,743		3,085	5,430		23,713			[F]2,625,000	[F]323,000			117,000	
1933	37,570	159,235	227,763	2,400	5,150		15,446			[F]2,368,000	[F]405,000			107,244	
1934	24,721	151,507	281,741	2,002	3,269	441	15,707			2,100,213	162,750			90,130	
1935 [L]										2,005,150	[M]36,850				
Total	229,303	545,021	509,504	25,407	138,959	441	196,615			62,083,828	[M]8,470,600			2,886,521	18,000

The Proof of the PUDDING!



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South Central Texas Crude Oil Production, by Fields, by Years—(Continued)

YEAR	Ottine	Pearsall	Salt Flat	Schimmel-Batts	Somerset	South Medina	Swearingen Farm	Thrall	Tracy	Van Petty	Von Ormy	Yoast	Yturri-Southton	Total South Central Texas
	Gonzales County	Frio County	Caldwell County	Bastrop County	Bexar-Atascosa Counties	Bexar County	Bexar County	Williamson County	Milam County	Bexar County	Bexar County	Bastrop County	Bexar County	
1889														48
1890														54
1891														54
1892														45
1893														50
1894														60
1895														50
1896-1899														A
1900														A
1901														A
1902	A													A
1903-1914														A
1915								F613,182						613,182
1916								F432,695	A	A				432,695
1917					A		A	F176,887	A					176,887
1918								F137,159						137,159
1919					F43,000			F91,000						134,000
1920					F162,000			F60,000						222,000
1921					F324,000			F52,000						376,000
1922					F672,000			K51,100					B	816,700
1923					F1,030,000			K34,210					B	3,542,672
1924					F1,109,000			K24,930					B	12,486,369
1925					F873,000			K16,935					B	12,725,301
1926					E789,627			15,500					B	10,635,393
1927					754,271			13,200					B	8,261,951
1928			290,535		670,495			12,903				5,272	B	7,645,121
1929	1,500		F13,286,000		475,000			12,500				475,944	C, I342,596	21,066,089
1930	10,467		F7,305,000		528,604			12,200				151,512	I50,204	26,093,058
1931			F4,372,000		423,780			12,500				I63,049	I49,626	17,996,720
1932			F2,944,000		361,812			12,675				57,768	34,248	13,427,306
1933			F2,020,000		318,412			16,072				41,506	30,968	10,800,534
1934			1,630,692		279,572			17,853				30,198	28,704	8,889,839
1935 L			1,506,100		265,700									7,967,350
Total	11,967		33,354,327		9,080,273			1,815,501				825,249	536,346	164,446,687

GENERAL NOTE: Annual volumes of *Mineral Resources* embodied following information: In 1902 oil and gas showings and small production (no records available) were reported in Edwards County, near Rock Springs; in Travis County, on Walnut Creek, near Austin; in Bell County, near Belton, and in Wilson County, at Southerland Springs.

A Small production reported, but no record available.
B Included below with figure marked "C".
C Also includes production of previous years marked "B".
D Also includes production of previous years, back to about 1912.
E Based on weekly reports of the American Petroleum Institute, the yearly figures having been calculated by THE OIL WEEKLY and published originally in annual statistical issues.
F From annual volumes of *Mineral Resources* and *Minerals Yearbook*.
G Calculated by deducting oil company figures for Salt Flat from *Mineral Resources* total for Luling and Salt Flat.
I From *Yearbook* (1931 and 1932) of National Oil Scouts' Association.
J The small production at Manford is included with Darst Creek. Oil company records show Manford output for 1929 at 70,379 barrels; 1930 at 158,727 barrels; 1931 at 48,367 barrels; and *Yearbook* of National Oil Scouts' Association shows 1932 at 31,140 barrels.
K Based on figures compiled weekly by THE OIL WEEKLY; the yearly figures having been published originally in annual statistical issues.
L For 1935 all figures calculated by THE OIL WEEKLY from weekly reports of the American Petroleum Institute.
M Chapman, Dale, and Lytton Springs production included with Alta Vista after August 31, 1935.
N Alta Vista in 1935 includes production of small and new fields of South Central Texas for which figures are not shown here.

Texas Panhandle Crude Oil Production, by Fields, by Years

Complete Production History of District, in Barrels of 42 U. S. Gallons

(Sources.—Except as otherwise indicated in footnotes, figures are from records of oil companies.)

Year	Armstrong	Badger	Bentley	Borger	Bowers	Burnett		Chapman	Cockrell	Cooper-Moore	Cooper-Moore	Dial	Empire-Fields	Finley
	Moore County	Hutchinson County	Wheeler County	Hutchinson County	Gray County	Carson County	Carson County	Gray County	Hutchinson County	Carson County	Hutchinson County	Hutchinson County	Carson County	Gray County
1918														
1919														
1920														
1921						A								
1922						A						A		
1923						A	A					A		
1924						A	A					A		
1925			A	A		A	A					A		
1926		A	A	A	A	A	B2,106,063	A	A			A		
1927		A	A	A	A	A	3,280,538	A	A	A	A	A		A
1928	A	A	A	A	A	A	2,445,169	A	A	A	A	A		A
1929	A	A	A	A	A	A	2,860,201	A	A	A	A	A		A
1930	A	A	A	A	A	A	2,999,079	A	A	A	A	A	A	A
1931	A	A	A	A	A	A	1,810,654	A	A	A	A	A	A	A
1932	A	A	A	A	A	A	1,874,184	A	A	A	A	A	A	A
	Total through 1932, by Counties: A	A	A	A	A	A	17,375,888	A	A	A	A	A	A	A
	Total prior to 1933, reclassified by Fields: B1,048,000	B536,000	B1,927,000	B76,579,000	B21,188,000	B3,985,000		B3,329,000	B4,979,000	B3,014,000	B1,301,000	B10,442,000	B139,000	B25,370,000
1933	20,900	136,348	144,150	2,370,289	1,195,840	197,069		275,038	96,475	619,255	379,167	800,438	28,507	3,301,600
1934		338,682	1,282,898	2,467,182	1,183,461	198,276		362,838	105,461	660,226	538,252	889,511	32,987	4,480,153
1935C							1,823,700							
Total	1,068,900	1,011,030	3,354,048	81,416,471	23,567,301	4,380,345	1,823,700	3,966,876	5,180,936	4,293,481	2,218,419	12,131,949	200,494	33,151,753

A Included below with first figure shown.
B Includes previous years marked "A".
C All figures for 1935 calculated by THE OIL WEEKLY from weekly reports of the American Petroleum Institute.

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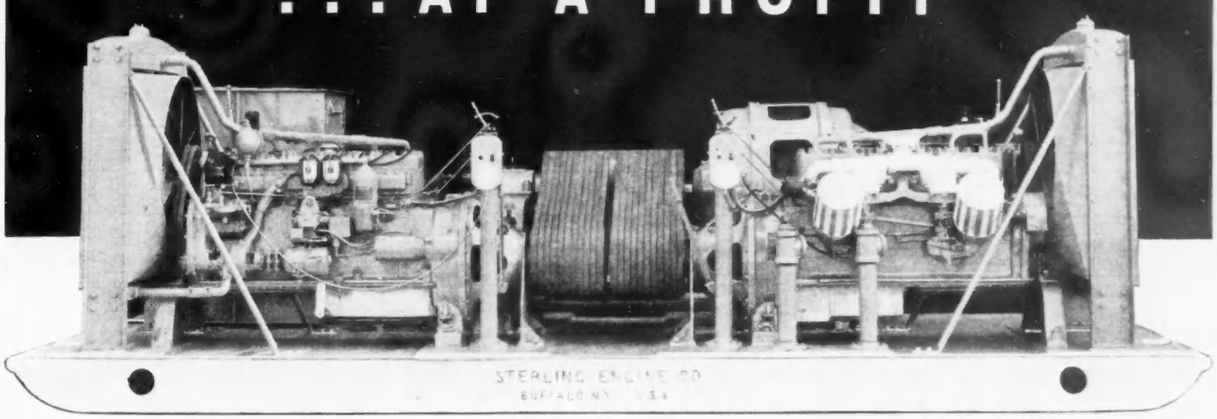

This Sterling Portable, Self-Contained, Butane Electric Drilling Rig has two Sterling Petrel, 6-cylinder, 5¼ x 6, Combination Butane - Gas - Gasoline Engines equipped with Twin Disc No. 7243 heavy duty, gear Tooth Drive Type Power Take-Offs, especially developed by Twin Disc engineers for oil field installations.

"It is necessary to provide clutches on the Sterling outfit for two reasons," says M. E. Mutchler, General Sales Manager of the Sterling Engine Company. "First: to enable each engine to be started, disconnected from the load; second: to permit the unit to operate from the power of one engine—and the Twin Disc Clutch performs these functions admirably. Twin Disc Clutches are presented in a housing suitable for adaption to an engine, and facilitating the attachment.

"The Sterling unit has drilled several wells, and latest reports are that the clutches are working satisfactorily. The work is very hard; and the load changes are frequent, and at certain times one engine is operated while the other is idle, necessitating that the clutch on the idle engine remain in neutral, hitherto a rather difficult thing to accomplish with a friction clutch.

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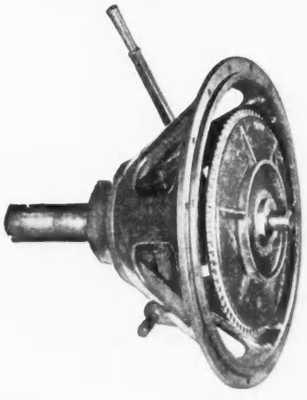
Write* for specific recommendations. Engineering data on request. *Twin Disc Clutch Company, 1336 Racine St., Racine, Wisconsin.



Twin Disc No. 7243 G.T. Power Take-Off Unit.

TWIN DISC CLUTCHES

Texas Panhandle Crude Oil Production, by Fields, by Years—(Continued)

YEAR	Gray County	Hutchinson County	Lefors Gray County	Moore County	Morse Gray County	Morton Moore County	Potter County	Sanford Hutchinson County	Roxana-Noel Carson County	South Pampa Gray County	Warwick Potter County	West Pampa Gray County	Wheeler County	Total Texas Panhandle (By THE OIL WEEKLY)	Total Texas Panhandle (By Government Sources)
1918	.....	.....	.....	.....	.....	.....	gas	.....	.....	.....	.....	.....	.....	gas	.....
1919	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1920	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1921	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1922	.....	A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A	.....
1923	.....	A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A	.....
1924	.....	A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A	272,000
1925	A	A	.....	.....	.....	.....	A	.....	.....	A	A	.....	A	A	1,132,000
1926	B1,290,066	B23,976,184	.....	.....	.....	.....	B11,534	A	A	A	A	A	B134,237	B27,518,084	25,451,000
1927	4,143,300	32,881,393	A	11,907	A	.....	11,973	A	A	A	A	A	698,446	41,027,557	40,253,000
1928	7,846,898	13,878,117	A	287,753	A	.....	9,013	A	A	A	A	A	362,834	24,829,784	25,286,000
1929	18,563,727	8,923,381	A	509,213	A	.....	5,113	A	A	A	A	A	263,954	31,125,589	30,632,000
1930	22,299,201	7,416,710	A	167,565	A	A	3,395	A	A	A	A	A	223,645	33,109,595	31,777,000
1931	15,007,468	3,851,675	A	355,390	A	A	182	A	A	A	A	A	129,087	21,154,456	21,851,000
1932	11,391,868	4,454,248	A	404,328	A	A	.....	A	A	A	A	A	128,468	18,253,096	18,263,000
Total through 1932, by counties	80,542,528	95,381,708	A	1,736,156	A	A	41,210	A	A	A	A	A	1,940,671	197,018,161	195,017,000
Total prior to 1933, reclassified by fields	.....	.....	B10,455,000	.....	B1,697,000	B715,000	.....	B2,881,000	B10,223,000	B9,731,000	B42,000	B8,883,000	.....	198,454,000	.....
1933	.....	.....	2,090,196	.....	452,329	316,841	.....	171,272	933,251	1,019,172	.....	1,975,731	.....	16,523,868	16,673,000
1934	.....	.....	1,439,712	.....	1,091,511	334,472	.....	196,075	1,010,999	771,831	.....	2,877,548	.....	20,312,075	.....
1935	11,196,750	4,738,900	.....	450,950	.....	.....	.....	.....	.....	.....	.....	.....	3,401,250	21,611,550	.....
Total...	11,196,750	4,738,900	14,034,908	450,950	3,230,840	1,366,313	.....	3,248,347	12,167,250	11,522,003	42,000	13,736,279	3,401,250	256,901,493	.....

A Included below with first figure shown.
B Includes previous years marked "A".
C All figures for 1935 calculated by THE OIL WEEKLY from weekly reports of the American Petroleum Institute.

North Texas Crude Oil Production, by Fields, by Years

Complete Production History of District, in Barrels of 42 U. S. Gallons

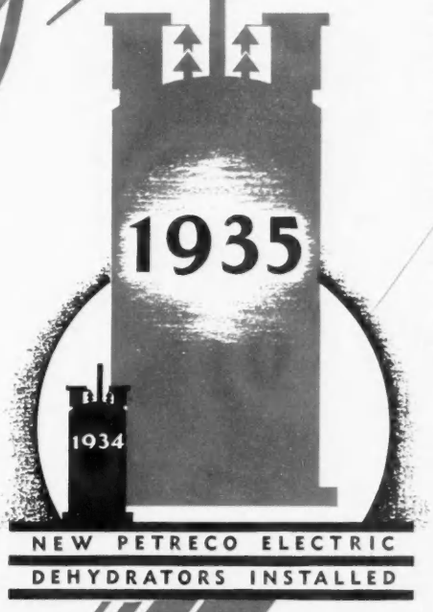
(Sources.—Except as otherwise indicated in footnotes, figures are from records of oil companies.)

Year	Archer County (Holliday)	Baylor County	Burkburnett Field Wichita County	Clay County (Petrolia-Henrietta)	Cooke County	Electra Field Wichita County	Foard County	Jack County	K-M-A Iowa Park Wichita-Archer Counties	Montague County	Throckmorton County: North Half	Wichita County	Wilbarger County	Unclassified	Young County North Half	Total North Texas
1902	.....	.....	.....	A	A	.....	.....	A	.....	A	.....	.....	.....	.....	.....	.....
1903	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1904	.....	.....	.....	B65,455	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	65,455
1905	.....	.....	.....	B75,592	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	75,592
1906	.....	.....	.....	B111,072	.....	.....	.....	A	.....	.....	.....	.....	.....	.....	.....	111,072
1907	.....	.....	.....	B83,260	.....	.....	.....	A	.....	.....	.....	.....	.....	.....	.....	83,260
1908	.....	.....	.....	B85,963	.....	.....	.....	A	.....	.....	.....	.....	.....	.....	.....	85,963
1909	.....	.....	.....	B113,485	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	113,485
1910	.....	.....	.....	B126,531	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	126,531
1911	.....	.....	.....	B168,965	.....	C	.....	.....	.....	.....	.....	B899,579	.....	.....	.....	1,068,544
1912	.....	.....	C	B197,421	.....	C	.....	.....	.....	.....	.....	B4,227,104	.....	.....	.....	4,424,525
1913	A	.....	C	B444,368	.....	C	.....	.....	C	.....	.....	B8,131,624	.....	.....	.....	8,476,492
1914	A	.....	C	B550,585	.....	C	.....	.....	C	.....	.....	B8,227,968	.....	.....	.....	8,778,553
1915	A	.....	C	B349,857	.....	C	.....	A	C	.....	.....	B5,833,951	.....	.....	.....	6,183,808
1916	A	.....	C	B302,145	.....	C	.....	A	C	.....	.....	B7,837,386	.....	.....	.....	8,139,531
1917	A	.....	C	B282,420	.....	C	.....	.....	C	.....	.....	B9,541,636	.....	.....	.....	9,824,056
1918	A	.....	C	B245,753	.....	C	.....	.....	C	.....	.....	B11,527,034	.....	.....	.....	11,772,787
Total through 1918, by Counties, **Mineral Resources** Basis:	.....	.....	.....	3,103,372	.....	.....	.....	.....	.....	.....	.....	56,226,282	.....	.....	.....	59,329,654
Total prior to 1919, Reclassified by Fields, with aid of Oil Company Records:	505,228	.....	11,189,604	3,103,372	.....	43,433,489	.....	.....	134,625	.....	.....	.....	.....	.....	.....	58,366,318
1919	D58,230	.....	D25,865,747	D212,624	.....	D4,177,171	.....	.....	D177,950	.....	.....	.....	.....	.....	.....	30,491,722
1920	D49,850	.....	D27,840,120	D135,385	.....	D3,744,653	.....	.....	D1,310,699	.....	.....	.....	.....	.....	.....	33,080,707
1921	D422,205	.....	D18,561,730	D132,295	.....	D4,205,510	.....	.....	D1,417,715	.....	.....	.....	.....	.....	.....	24,739,455
1922	D849,680	.....	D11,486,740	D121,295	.....	D6,606,320	.....	.....	D937,445	.....	.....	.....	.....	.....	.....	20,001,480
1923	D5,088,630	.....	D9,174,020	D164,635	.....	D8,856,089	.....	D16,360	D793,285	.....	.....	.....	.....	.....	.....	24,093,019
1924	D10,869,051	.....	D7,109,190	D119,095	.....	D7,332,990	.....	D10,930	D1,338,510	.....	.....	.....	D271,255	.....	.....	27,051,021
1925	D13,578,085	D44,420	D5,206,550	D147,680	.....	D6,294,455	.....	D8,755	D1,742,690	D111,265	.....	.....	D3,189,720	.....	.....	30,323,620
1926	F11,722,895	62,663	F4,581,192	F149,745	35,862	F5,693,005	.....	70,610	F1,692,708	2,074,050	.....	.....	4,926,572	.....	E3,935,894	35,005,196
1927	9,705,822	32,432	4,131,232	241,003	1,390,508	5,376,775	.....	292,719	1,435,560	2,244,877	.....	.....	4,496,622	.....	1,620,668	30,968,218
1928	7,288,040	33,623	3,609,116	187,453	1,011,952	4,857,688	.....	530,006	1,319,958	3,105,194	.....	.....	8,218,219	.....	1,505,136	31,666,385
1929	6,597,512	32,960	3,233,489	247,292	2,350,351	4,534,309	40,016	1,104,136	1,806,516	2,444,658	.....	.....	10,464,452	.....	1,479,082	34,334,773
1930	5,978,830	345,925	2,931,489	274,835	1,265,818	3,931,863	63,990	1,096,110	1,999,365	2,297,837	.....	.....	7,757,318	.....	2,791,237	30,644,617
1931	4,397,983	213,350	2,249,158	209,468	617,699	3,176,672	24,681	619,878	1,240,139	1,344,251	.....	.....	4,193,224	.....	2,950,835	21,237,338
1932	4,104,705	162,019	F1,947,150	192,745	575,142	F2,964,200	27,139	550,885	F1,000,750	1,484,659	.....	.....	3,317,120	.....	2,105,023	18,431,537
1933	4,684,600	109,479	F1,856,550	165,416	565,913	F2,921,250	80,781	483,679	F901,450	1,521,363	3,533	.....	2,890,191	.....	1,962,982	18,147,187
1934	6,998,614	95,162	F1,955,200	197,243	588,475	F2,798,950	333,797	502,602	F831,450	1,676,903	1,667	.....	3,078,705	.....	2,242,275	21,301,043
1935G	6,776,400	.....	1,869,850	.....	H	2,863,500	.....	491,000	855,550	H2,774,000	.....	.....	2,970,650	986,850	2,129,450	21,717,250
Total.	99,676,360	1,132,033	144,798,127	6,001,581	8,461,720	123,768,889	570,404	5,777,670	20,846,365	21,079,057	5,200	.....	55,774,048	986,850	22,722,582	511,600,886

FOOTNOTES: A Small production but no record available.
B From *Mineral Resources*.
C Included under Wichita County.
D Based on figures compiled weekly by THE OIL WEEKLY; the yearly figures having been published originally in annual statistical issues.
E Includes production during and prior to 1926.
F Based on weekly reports of American Petroleum Institute, the yearly figures having been calculated by THE OIL WEEKLY and published originally in annual statistical issues.
G All figures for 1935 calculated by THE OIL WEEKLY from weekly reports of the American Petroleum Institute.
H Montague County includes production of Cooke County in 1935.

THE *Trend* IN DEHYDRATION IS *Clearly Defined*

BY THESE SUBSTANTIAL *Gains*



The turn of another year finds Petreco recording steady, substantial gains both in the number of new installations, and in the total throughput of existing plants. This fact is important to oil men because of the reasons back of it.

The Petreco process long has been the standard of excellence for treating emulsified crude. Producers always have found it a most satisfactory process for different types of emulsions—a dependable safeguard against "cut" oil losses. Through the years Petreco has conducted a relentless campaign of research and development in the laboratory and in the field, and unfailingly has anticipated changing field, well and emulsion conditions with the most advanced improvements in equipment and treating procedure. Petreco and the Petreco process have withstood the test of time in no uncertain manner.

Today, as in the past, Petreco leadership is expressed in terms of preference, and is reflected by increases in perfect step with progress within the industry.

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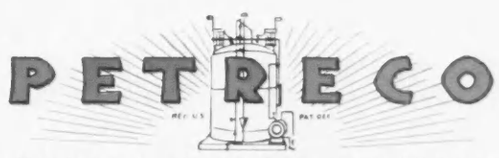


The Electrical Process for Dehydrating Crude Oil Emulsions

Leadership EXPRESSED IN *Cold Figures*

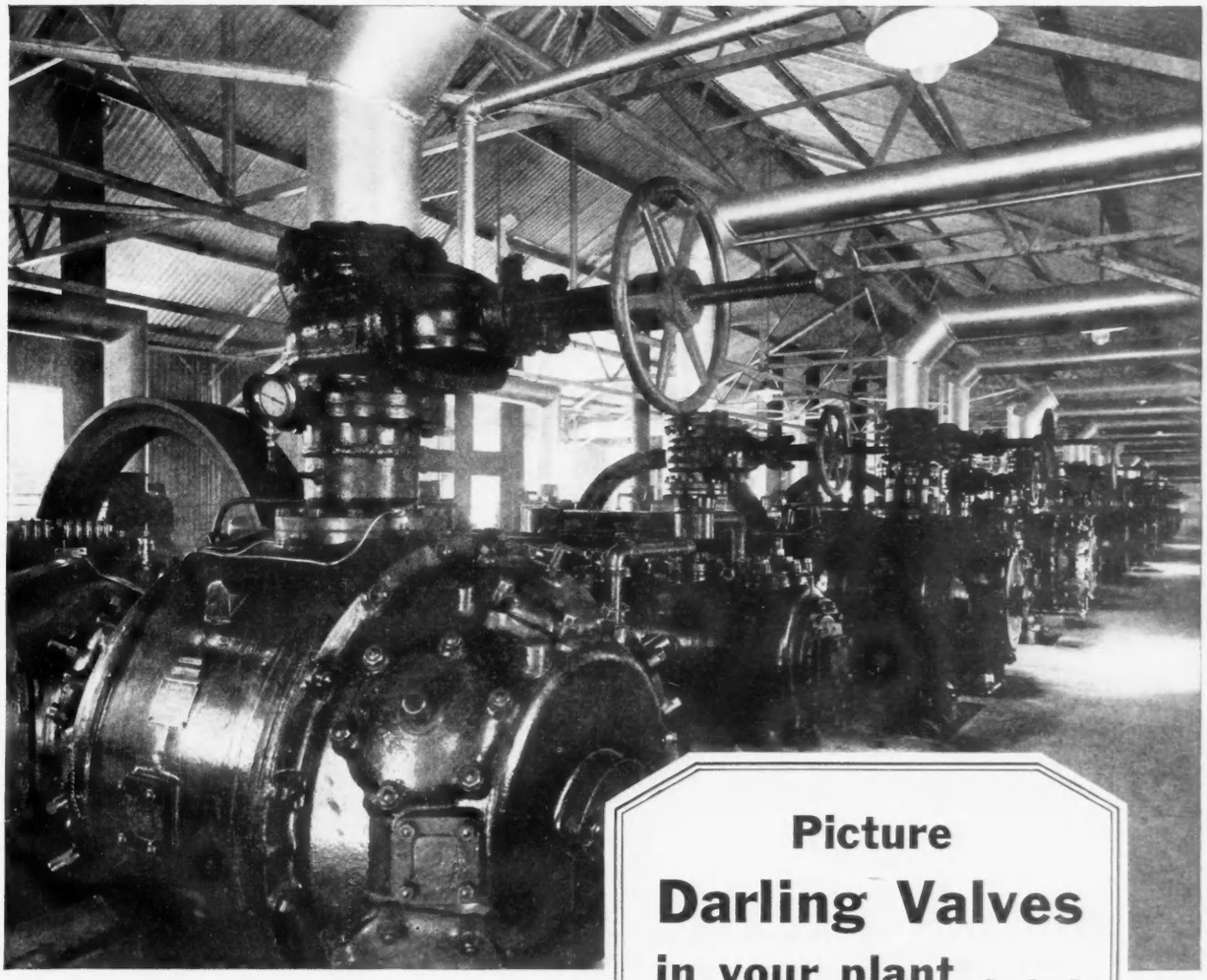
Texas Gulf Coast Crude Petroleum Production, by Fields, by Years

Complete Production History of District, in Barrels of 42 U. S. Gallons

(Sources.—Except as otherwise indicated in footnotes, figures are from annual volumes of *Mineral Resources* and *Minerals Yearbook.)*

Year	Ace Polk County	Allen Brazoria County	Anahuac Chambers County	Arriola Hardin County	Barbers Hill Chambers County	Batson Hardin County	Big Creek Fort Bend County	Big Hill Jefferson County	[B]Big Hill Matagorda County	Blue Ridge Fort Bend County	Boling Wharton-Fort Bend Counties	Brenham Washington County	Bryan Mound Brazoria County	Buckeye Matagorda County	Clay Creek Washington County	Cleveland Liberty County	Conroe Montgomery County	Damon Mound Brazoria County
1893-1900																		
1901																		
1902																		
1903						4,518												
1904						10,904,737			151,936									
1905						3,774,841			46,471									
1906						2,289,507			3,600									
1907						2,164,453			1,573									
1908						1,693,570			[B]									
1909						1,206,214												
1910						1,113,767												
1911						1,023,493												
1912						844,563												
1913						741,350												
1914						775,804												
1915						703,686						[A]						[A]
1916					[A]	744,915						[A]						[A]
1917						692,417						[A]						[E]124,325
1918					[I]20,000	634,736						[A]						[E]283,527
1919					[I]169,415	560,000				[I]24,910		[A]						191,000
1920					[I]136,367	527,000				92,000		[A]						379,000
1921					[I]49,885	495,000				326,000		[A]						666,000
1922					[I]236,185	434,000	3,700			349,000		[A]						754,000
1923					[I]172,660	403,000	[I]17,545	[I]13,853		287,000		[A]						628,000
1924					[I]72,437	464,000	293,000	[I]3,258		278,000		[A]						520,000
1925					[I]46,712	432,000	310,000			313,000	40,000	[A]						416,000
1926					[I]146,312	456,000	520,000			486,000	1,175,000	[G, N]15,000						341,000
1927		2,922			[T]68,575	462,000	1,243,000			1,210,000	753,000	[G]12,500						312,000
1928		17,457			[T]322,950	550,000	811,000			2,205,000	814,000	[G]47,330			[G]5,607			291,000
1929		5,473				4,552,000	444,000	1,496,000		1,194,000	580,000	[G]76,246			[G]607,006			224,000
1930		26,385				7,441,000	418,000	1,390,000		644,000	378,000	[G]52,606			[G]619,187			224,000
1931		11,410				7,651,000	330,000	858,000		378,000	269,000	[G]33,111			553,000		[G]1,000	282,000
1932		5,079		7,630		7,320,000	268,000	425,000		328,000	188,000	[G]20,461		105,000	356,000		2,630,000	219,000
1933		3,044		191,219		8,082,000	208,000	413,000		295,000	126,000	[G]11,849		272,000	334,000	[G]1,300	21,215,000	[G]200,519
1934	5,900	4,336		459,113		6,821,433	252,838	359,683		309,992	143,461	11,684		74,848	262,716	171,340	17,272,399	212,705
1935[U]	[R]5,651,350		[V]323,950	398,700		6,790,650	617,050	363,200		349,200	[W]105,250	[R]	[R]	[R]	358,350	[R]	15,493,600	[W]144,200
Total	[R]5,657,250	76,106	[V]323,950	1,056,662	50,099,581	36,533,459	8,503,128	17,111	203,580	9,069,102	[W]4,571,711	280,787		451,848	3,095,866	172,640	56,611,999	[W]6,472,276

YEAR	Danbury Brazoria County	Dickinson Galveston County	Esperson Liberty County	Fannett Jefferson County	Garwood Colorado County	Goose Creek Harris County	Hankamer Liberty County	Hardin Liberty County	Hastings Brazoria County	High Island Galveston County	Hockley Harris County	Hoskins Mound Brazoria County	Hull Liberty County	Humble Harris County	Kittrell Houston County	Livingston Polk County
1893-1900																
1901																
1902																
1903																
1904														[A, M]		
1905												[A]		15,594,310		
1906												76,991		3,571,445		
1907						[A]						11,694		2,929,640		
1908						[B]15,000						[J]11,500		3,778,521		
1909						[A]						[A]		3,237,060		
1910						[A]						[A]		2,495,511		
1911												[A]		2,426,220		
1912						43,898								1,829,923		
1913						249,641								1,504,880		
1914						134,748								2,799,458		
1915						119,336								11,061,802		
1916						397,391								10,925,805		
1917						7,300,279								7,389,831		
1918						[P]8,923,635							244,887	6,555,173		
1919						[P]5,600,585							1,273,000	3,706,000		
1920						[P]4,339,625							3,909,000	3,607,000		
1921						[P]4,590,115							8,150,000	3,004,000		
1922						[P]4,529,815				[G]2,700			6,546,000	2,284,000		
1923						[P]5,853,340				[I]19,018	[A]		7,300,000	2,275,000		
1924						[P]3,894,563				[I]19,141	[I]6,614		7,074,000	2,224,000		
1925						[P]3,417,288				121,000			6,944,000	1,864,000		
1926						[P]3,354,688				60,000			7,058,000	1,568,000		
1927				[A]		[P]3,033,425				96,000			5,685,000	1,485,000		
1928				[G]3,800		[P]2,403,050				163,000			4,055,000	1,242,000		
1929			[G]48,460	292,000		2,154,000	[G]18,122			449,000			3,376,000	2,990,000		
1930			819,000	350,000		1,690,000	546,000			331,000			3,128,000	5,859,000		[H]
1931			712,000	180,000		1,460,000	798,000			255,000			2,264,000	3,022,000		[H]
1932			509,000	151,000	gas	1,232,000	691,000			1,547,000	[G]938		1,891,000	2,144,000		[G]392
1933			481,000	146,000	[G]2,024	1,163,000	547,000			2,534,000	[G]13,128		1,946,000	1,722,000		435,000
1934	3,612	6,903	450,391	193,200		1,201,256	374,914		729	2,782,789	2,385		3,468,027	1,229,867	35,327	730,003
1935 [U]	[R]	[X]274,750	453,500	[W]138,750		1,055,150	575,450	[R]	[Y]482,350	2,542,800			2,307,600	1,204,600	[R]	996,400
Total	3,612	[X]281,653	3,473,351	[W]1,454,750	2,024	68,155,828	3,550,486	[R]	483,079	10,922,448	23,065	100,185	76,619,514	117,530,046	[R]35,327	2,161,795



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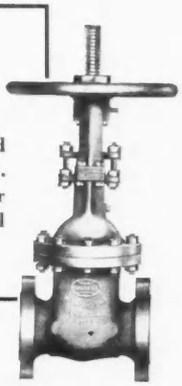
Darling Improved Cast Steel Gate Valve. Available in regular carbon, stainless steel or other alloys.



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DARLING GATE VALVES

Texas Gulf Coast Crude Oil Production, by Fields, by Years—(Continued)

YEAR	Lost Lake Chambers County	Louise Wharton County	Manvel Brazoria County	[B]Markham Matagorda County	Moss Bluff Liberty-Chambers Counties	Mykawa Harris County	Nash Fort Bend County	North Dayton Liberty County	Old Ocean Brazoria County	Orange Orange County	Orchard Fort Bend County	Pickett Ridge Wharton County	Pierce Junction Harris County	Pledger Brazoria County	Port Neches Orange County
1905								60,294							
1906								92,850							
1907								108,038							
1908				[B]62,640				39,901							
1909				29,103				17,647							
1910				455,999				9,582							
1911				561,828				4,344							
1912				613,292				12,151							
1913				294,553				13,329		17,706					
1914				164,192				18,791		43,208					
1915				137,841				10,378		21,697					
1916				158,338				8,571		17,758					
1917				128,011				9,995		7,023					
1918				64,616				8,526							
1919				54,000				8,000		[H]4,400					
1920				57,000				17,000		[H]4,000					
1921				49,000				40,000		470,000			1,239,000		
1922				35,000				29,000		5,345,000			1,020,000		
1923				21,000				35,000		4,649,000			313,000		
1924				66,000				36,000		3,958,000			154,000		
1925				41,000				20,000		4,816,000			265,000		
1926				51,000			207,000	[G]25,700		3,458,000	75,000		948,000		
1927				109,000			395,000	[G]57,579		1,803,000	22,000		2,954,000		
1928				112,000			491,000	[T]210,000		1,415,000	44,000		3,899,000		
1929	[F]99,000			133,000		[G]1,446	193,000	214,000		1,006,000	44,000		5,160,000		242,060
1930	209,000			98,000	[G]12,254	[G]24,006	110,000	406,000		790,000	636,000		3,847,000		672,000
1931	96,000		[G]75,307	218,000	154,000	[G]59,249	187,000	202,000		618,000	495,000		2,831,000		503,000
1932	127,000		160,000	516,000	38,000	[G]101,000	55,000	100,000		451,000	496,000		1,763,000	[G]500	553,000
1933	84,000	[G]5,913	586,000	351,000	[G]6,011	[G]98,199	[G]30,048	55,000		312,000	413,000		1,524,000	[G]15,906	383,000
1934	68,365	181,566	1,037,568	408,244		150,196	12,660	59,997	17,568	291,206	452,395		1,193,108	1,100	567,261
1935 [U]	[R]	[R]	2,431,000	485,950		721,150	[R]	[Z]40,650	[R]	263,200	[W]171,150	[R]	1,187,400	[R]	601,200
Total	[R]683,365	[R]187,479	4,289,875	5,475,607	210,265	1,155,350	[R]1,680,708	[Z]1,970,323	[R]17,568	29,761,198	[W]2,848,545	[R]	28,297,508	[R]17,506	3,521,461

FOOTNOTES: [A] Small production, but no record available.

[B] Small production at Big Hill (Matagorda) after 1907 included with Markham. (*Mineral Resources,* 1915, reported only one producer at Big Hill in 1915. DeGolyer and Others' *Geology of Salt Dome Oil Fields,* 1926, indicated that after 1907 Big Hill produced not over 300,000 barrels).

[C] Sour Lake and Saratoga for 1903 are estimates included in text in *Mineral Resources,* 1903.

[D] Small production at Saratoga in 1902 included with Sour Lake.

[E] Damond Mound includes production at West Columbia.

[F] No record available of first production at Sour Lake in 1893, 1894, and 1895; small production in 1896-1897 included with Corsicana; in 1898-1899 included with Nacogdoches; in 1900 included with Powell—all in East Central and East Texas district.

[G] From oil company records.

[H] Sunshine area, adjoining Livingston field, had small production beginning in 1930, but no records available.

[I] Based on figures compiled weekly by THE OIL WEEKLY; the yearly figures having been published originally in annual statistical issues.

[J] Estimated by THE OIL WEEKLY from statement in text of *Mineral Resources,* 1908, Part II, p. 396.

[K] Goose Creek in 1908 obtained from figures in *Mineral Resources,* 1908, Part II, pp. 397-398.

[L] Sour Lake in 1902 includes the limited output of Saratoga and numerous other Texas districts outside Corsicana, Powell and Spindle Top.

[M] According to *Mineral Resources* of 1904, Humble produced about 2000 barrels which were not sold.

[N] Also includes estimated production of previous years marked "A".

[P] Calculated by deducting oil company figure for Barbers Hill from *Mineral Resources* totals for Goose Creek-Barbers Hill.

[Q] Figures for Raccoon Bend Shallow for 1935 also includes Raccoon Bend Deep.

[R] For 1935 the figures for Allen represent all "Unclassified" production of district, embracing small and new fields for which figures are not shown.

[S] Estimated by THE OIL WEEKLY with aid of DeGolyer and Others' *Geology of Salt Dome Oil Fields.*

[T] Based on weekly reports of American Petroleum Institute, the yearly figures having been calculated by THE OIL WEEKLY and published originally in annual statistical issues.

[U] All figures for 1935 calculated by THE OIL WEEKLY from weekly reports of the American Petroleum Institute.

[V] Production included with Ace prior to June 1, 1935.

[W] Production shown with Ace after August 31, 1935.

[X] Dickinson included with Ace prior to March 23, 1935.

[Y] Production included with Ace prior to August 3, 1935.

[Z] North Dayton production shown with Ace in latter half of 1935.

YEAR	Raccoon Bend Shallow Austin-Waller Counties	Raccoon Bend Deep Austin-Waller Counties	Rockland Jasper County	San Felipe Austin-Waller Counties	Saratoga Hardin County	Sheppards Mott Matagorda County	Sour Lake Hardin County	South Houston Harris County	South Liberty Liberty County
1893-1900							[F]		
1901					[A]		[A]		
1902					[D]		[D]44,838		
1903					[C]148,159		[C]8,700,000		
1904					739,239		6,442,357		
1905					3,125,028		3,362,153		
1906					2,182,057		2,156,010		
1907					2,130,928		2,353,940		
1908					1,634,786		1,595,060		
1909					1,183,559		1,703,798		
1910					1,024,348		1,518,723		
1911					925,777		1,364,880		
1912					1,116,655		1,175,108		
1913					937,720		1,348,053		
1914					889,743		5,209,208		
1915					864,266		4,114,622		
1916					781,128		4,923,332		
1917					682,797		4,763,004		
1918					722,353		3,407,696		
1919					737,000		2,709,000		
1920					849,000		2,024,000		
1921					1,129,000		1,802,000		
1922					713,000		1,675,000		
1923					626,000		1,906,000		
1924					543,000		1,588,000		
1925					514,000		1,444,000		4,416,000
1926					482,000		2,004,000		1,992,000
1927	[G]1,000				413,000		1,593,000		1,084,000
1928	[G]96,775		[G]1,800		343,000		1,185,000		1,398,000
1929	[G]2,089,909		[G]10,990		333,000		946,000		2,137,000
1930	[G]3,866,149		[G]5,604		380,000		806,000		1,503,000
1931	[G]2,692,333		[G]1,347		360,000		675,000		694,000
1932	[G]1,771,323		[G]5,183		326,000		570,000		369,000
1933	[G]1,501,793		[G]3,967		302,000		453,000		255,000
1934	1,352,185	136,442	2,644	4,635	297,951		493,963		174,984
1935 [U]	[Q]1,698,100	[Q]	[R]	[R]	[W]194,850	[R]	566,200	[R]	[W]121,950
Total	[Q]15,069,567	[Q]136,442	[R]31,535	[R]4,635	[W]27,631,344	[R]	76,622,945	[R]	[W]14,144,934

Mineral Resources Figures on Raccoon Bend
(Shallow and Deep)

YEAR	Bbls Prod.
1927	1,000
1928	98,000
1929	2,084,000
1930	3,893,000
1931	2,704,000
1932	1,814,000
1933	1,544,000
Total	12,138,000

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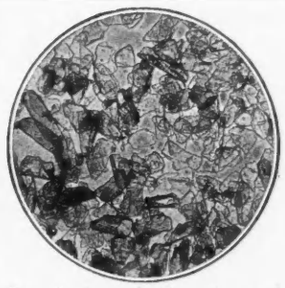

Reproduction of the micrograph above shows the interlocking of the flakes of the internal reinforcement used by Barrett. By laminating with the waterproofing agent they give Barrett Pipe Line Enamels unusual toughness and resistance to soil stresses.

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Texas Gulf Coast Crude Oil Production, by Fields, by Years—(Continued)

YEAR	Spindle Top Jefferson County	Splendora Montgomery County	Stratton Ridge Brazoria County	Sugarland Fort Bend County	Thompsons Fort Bend County	Tomball Harris-Montgomery Counties	Turtle Bay Chambers County	Van Vleck Matagorda County	West Columbia Brazoria County	Total Texas Gulf Coast
1893-1900										[F]
1901	3,593,113									3,593,113
1902	17,420,949								[A]	17,465,787
1903	8,600,905									17,453,582
1904	3,433,842								[A]	21,672,111
1905	1,652,780									27,615,877
1906	1,077,492									11,449,952
1907	1,699,943									11,400,209
1908	1,747,537									10,478,515
1909	1,388,107									8,765,488
1910	1,182,436									7,800,366
1911	965,939									7,272,481
1912	822,916									6,458,506
1913	716,374									5,823,606
1914	580,130									10,615,282
1915	388,266									17,421,894
1916	340,441									18,297,679
1917	380,039								[E]	21,477,721
1918	557,128								[E]	21,422,277
1919	407,000								5,611,000	21,055,310
1920	322,000								9,459,000	25,721,992
1921	344,000								12,081,000	34,435,000
1922	289,000		[S]8,400						11,126,000	35,379,800
1923	326,000		[S]675						5,994,000	30,840,091
1924	359,000		[S]9,085						4,536,000	26,098,098
1925	412,000								4,031,000	29,863,000
1926	13,441,000								3,197,000	41,060,700
1927	20,751,000								3,291,000	46,837,001
1928	14,150,000			390,000					2,800,000	39,466,769
1929	10,037,000			3,948,000					2,298,060	47,398,652
1930	6,176,000			4,274,000					1,827,000	49,558,191
1931	3,301,000			4,216,000	808,000				1,310,000	38,553,757
1932	1,387,000		[G]560	3,487,000	4,201,000				1,295,000	37,811,170
1933	1,149,000		[G]11,654	2,532,000	4,906,000	233,000			[G]1,198,316	56,811,890
1934	1,143,704	676		2,185,378	4,202,750	989,590		11,770	1,035,175	53,314,932
1935 [U]	948,750	[R]	[R]	2,121,700	4,111,800	1,913,250	[R]	[R]	884,950	59,090,100
Total	121,491,791	[R]676	[R]30,374	23,154,078	18,229,550	3,135,840	[R]	[R]11,770	71,974,441	919,780,899

FOOTNOTES: [A] Small production, but no record available.

[B] Small production at Big Hill (Matagorda) after 1907 included with Markham. (*Mineral Resources,* 1915, reported only one producer at Big Hill in 1915. DeGolyer and Others' *Geology of Salt Dome Oil Fields,* 1926, indicated that after 1907 Big Hill produced not over 300,000 barrels).

[C] Sour Lake and Saratoga for 1903 are estimates included in text in *Mineral Resources,* 1903.

[D] Small production at Saratoga in 1902 included with Sour Lake.

[E] Damond Mound includes production at West Columbia.

[F] No record available of first production at Sour Lake in 1893, 1894, and 1895; small production in 1896-1897 included with Corsicana; in 1898-1899 included with Nacogdoches; in 1900 included with Powell—all in East Central and East Texas district.

[G] From oil company records.

[H] Sunshine area, adjoining Livingston field, had small production beginning in 1930, but no records available.

[I] Based on figures compiled weekly by THE OIL WEEKLY; the yearly figures having been published originally in annual statistical issues.

[J] Estimated by THE OIL WEEKLY from statement in text of *Mineral Resources,* 1908, Part II, p. 396.

[K] Goose Creek in 1908 obtained from figures in *Mineral Resources,* 1908, Part II, pp. 397-398.

[L] Sour Lake in 1902 includes the limited output of Saratoga and numerous other Texas districts outside Corsicana, Powell and Spindle Top.

[M] According to *Mineral Resources* of 1904, Humble produced about 2000 barrels which were not sold.

[N] Also includes estimated production of previous years marked "A".

[P] Calculated by deducting oil company figure for Barbers Hill from *Mineral Resources* totals for Goose Creek-Barbers Hill.

[Q] Figures for Raccoon Bend Shallow for 1935 also include Raccoon Bend Deep.

[R] For 1935 the figures for Allen represent all "Unclassified" production of district, embracing small and new fields for which figures are not shown.

[S] Estimated by THE OIL WEEKLY with aid of DeGolyer and Others' *Geology of Salt Dome Oil Fields.*

[T] Based on weekly reports of American Petroleum Institute, the yearly figures having been calculated by THE OIL WEEKLY and published originally in annual statistical issues.

[U] All figures for 1935 calculated by THE OIL WEEKLY from weekly reports of the American Petroleum Institute.

[V] Production included with Ace prior to June 1, 1935.

[W] Production shown with Ace after August 31, 1935.

[X] Dickinson included with Ace prior to March 23, 1935.

[Y] Production included with Ace prior to August 3, 1935.

[Z] North Dayton production shown with Ace in latter half of 1935.

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Form 102	DAILY GAUGE REPORT (In duplicate—100 sets to the book)	1.40	6.00	9.50
Form 103	WELL LOG AND RELATED DATA (8½x11, Printed both sides—100 to book)	1.50	6.50	10.50
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Form 105	MATERIAL TRANSFER RECORD (In duplicate—100 sets to the book)	1.50	6.50	10.50
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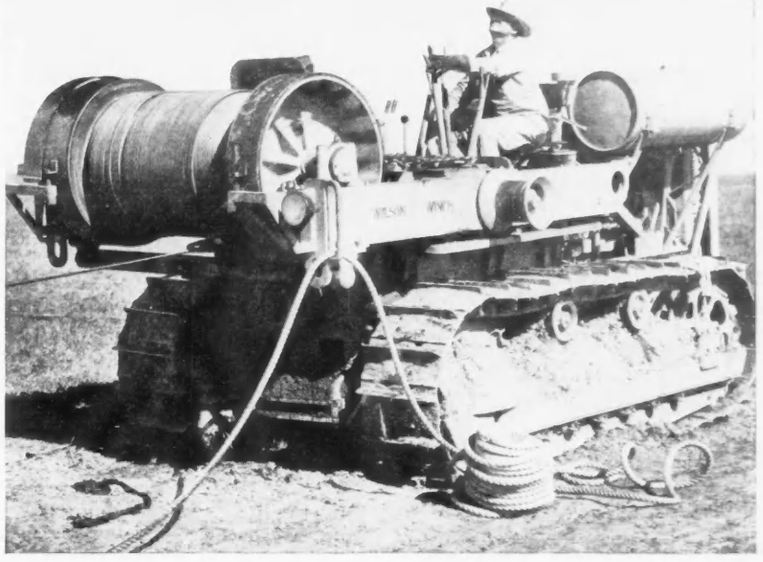

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East and East Central Texas Crude Oil Production, by Fields, by Years

Complete Production History of District, in Barrels of 42 U. S. Gallons

(Sources.—Except as otherwise indicated in footnotes, figures are from records of oil companies.)

YEAR	Bethany Panola County	Boggy Creek Anderson Cherokee Counties	Cayuga Limestone County	Cedar Creek Limestone County	[A]Corsicana Navarro County	Currie Navarro County	East Texas Field [I]Five Counties	Long Lake Anderson County	Marion County (West Edge Caddo Field)	Mexia Limestone County	[B]Nacogdoches County
1887											[C]
1888											[C]
1889-1894											
1895					[C]						
1896					[D], F1,450						[D]
1897					[D], F65,975						
1898					F544,620						[B]1,450
1899					F668,483						[E]530
1900					F829,560						
1901					F763,424						
1902					F571,059						[C]
1903					F401,817						[C]
1904					F374,318						[C]
1905					F311,554						
1906					F332,622						
1907					F226,311						
1908					F211,117						
1909					F180,764						
1910					F137,331				[H]F,251,717		
1911					F128,526				[H], F[illegible],689		
1912					F233,282				[illegible]62,870		
1913					F158,830				F262,392		
1914					F133,811				F180,584		[C]
1915					F143,275				F123,464		[C]
1916	[C]				F135,263				F64,971	Gas	[C]
1917	[C]				F131,828				F57,952	Gas	
1918	[C]				F117,576				F48,041	[C]	
1919					[K]						[J]95,000
1920					[K]					[C]	[J]75,000
1921					[K]	[M]8,905				[M]5,783,236	[J]103,035
1922					[K]	[M]2,005,012				[M]33,937,513	[J]58,875
1923					[K]	[M]1,741,774				[M]18,044,375	[J]39,145
1924					[K]	[M]981,921				[M]10,466,567	[J]37,920
1925					[K]	[M]470,717				[M]6,700,444	[J]11,746
1926					[K]	[M]335,098				[M]4,769,732	
1927		14,760		86,285	[K]	[M]249,048				[M]3,622,385	
1928		325,744		147,449	[K]	196,204				2,517,744	
1929		1,132,130		40,832	[K]	158,430				1,908,247	
1930		1,153,359		17,799	215,000	125,936	27,220			1,529,162	
1931		622,704		5,432	[K]	90,758	F109,561,000			1,156,386	
1932		370,256			100,000	65,466	F121,449,000			935,601	
1933		278,760			144,000	52,810	F204,954,000	5,811		835,900	
1934		217,882	613,702	[G]	149,129	55,640	[O]181,540,000	41,565		789,124	
1935 [P]	[Q]406,600	[R]139,150	1,325,600		[S]	[R]29,100	[O]176,308,000			804,800	
Total	[Q]406,600	[R]4,254,745	1,939,302	297,797	[S]7,410,926	[R]6,566,819	793,839,220	47,376	2,026,680	93,801,216	422,701

GENERAL NOTE: In addition to figures shown above, the following information is available on the district, being from annual volumes of *Mineral Resources*: About 1867, according to *Mineral Resources* of 1897, the first development of oil in Texas was near Nacogdoches, when oil was found at Oil Springs, about 15 miles south of town. Nearly 100 wells were sunk at that time, and high gravity oil was found at about 100 feet. Also small oil production (no record available) was reported near Palestine, Anderson County, in 1902 and 1907; and on the Prather farm, four miles west of Waco, McLennan County, in 1916 and 1917.

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East and East Central Texas Crude Oil Production, by Fields, by Years *(Continued)*

Complete Production History of District, in Barrels of 42 U. S. Gallons

(Sources.—Except as otherwise indicated in footnotes, figures are from records of oil companies.)

Nigger Creek	North Currie	Powell	Richland	Shelbyville	South Bosque	Tacoma	Van Field	Wortham	Total East and East Central Texas	YEAR
Limestone County	Navarro County	Navarro County	Navarro County	Shelby County	McLennan County	Panola County	Van Zandt County	Freestone-Limestone Counties		
.....	.....	.....	.....	.....	.....	.....	.....	.....	C	1887
.....	.....	.....	.....	.....	.....	.....	.....	.....	C	1888
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1889–1894
.....	.....	.....	.....	.....	.....	.....	.....	.....	C	1895
.....	.....	.....	.....	.....	.....	.....	.....	.....	1,450	1896
.....	.....	.....	.....	.....	.....	.....	.....	.....	65,975	1897
.....	.....	.....	.....	.....	.....	.....	.....	.....	546,070	1898
.....	.....	.....	.....	.....	.....	.....	.....	.....	669,013	1899
.....	.....	G, F6,479	.....	.....	.....	.....	.....	.....	836,039	1900
.....	.....	G, F37,121	.....	.....	.....	.....	.....	.....	800,545	1901
.....	.....	F46,812	.....	.....	C	.....	.....	.....	617,871	1902
.....	.....	F100,143	.....	.....	.....	.....	.....	.....	501,960	1903
.....	.....	F126,329	.....	.....	C	.....	.....	.....	503,647	1904
.....	.....	F132,866	.....	.....	C	.....	.....	.....	444,420	1905
.....	.....	F673,221	.....	.....	C	.....	.....	.....	1,005,843	1906
.....	.....	F596,897	.....	.....	C	.....	.....	.....	823,208	1907
.....	.....	F421,659	.....	.....	C	.....	.....	.....	632,776	1908
.....	.....	F383,137	.....	.....	C	.....	.....	.....	563,901	1909
.....	.....	F450,188	.....	.....	C	.....	.....	.....	839,236	1910
.....	.....	F373,055	.....	.....	C	.....	.....	.....	1,179,270	1911
.....	.....	F251,240	.....	.....	C	.....	.....	.....	847,392	1912
.....	.....	F282,476	.....	.....	C	.....	.....	.....	703,698	1913
.....	.....	F282,279	.....	.....	C	.....	.....	.....	596,674	1914
.....	.....	F237,410	.....	.....	C	.....	.....	.....	504,149	1915
.....	.....	F215,729	.....	.....	.....	.....	.....	Gas	415,963	1916
.....	.....	F196,855	.....	C	.....	.....	.....	.....	386,635	1917
.....	.....	F195,207	.....	C	.....	.....	.....	.....	360,825	1918
.....	.....	K, F269,000	.....	.....	.....	.....	.....	.....	364,000	1919
.....	.....	K, F297,000	.....	.....	.....	.....	.....	.....	372,000	1920
.....	Gas	K, J305,335	.....	.....	.....	.....	.....	.....	6,200,511	1921
.....	N	K, J245,705	.....	.....	.....	.....	.....	.....	36,247,105	1922
.....	N	K, M30,373,335	.....	.....	.....	.....	.....	.....	50,198,629	1923
.....	N, M77,184	K, M32,935,899	M3,341,714	.....	.....	.....	.....	M888,856	48,730,061	1924
.....	M76,547	K, M17,176,938	M1,725,028	.....	.....	.....	.....	M15,946,673	42,108,093	1925
M1,572,899	M82,307	K, M10,022,324	M504,782	.....	.....	.....	.....	M2,801,123	20,088,265	1926
M972,291	M41,813	K, M 5,839,114	M272,576	.....	.....	.....	.....	M1,134,231	12,232,503	1927
221,850	.....	K3,949,245	198,537	.....	.....	.....	.....	647,472	8,204,245	1928
119,043	.....	K2,776,615	131,291	.....	.....	.....	250,068	410,810	6,927,466	1929
71,721	.....	2,026,017	72,130	.....	.....	.....	7,693,956	287,825	13,220,125	1930
26,871	.....	K1,257,577	27,176	.....	.....	.....	15,670,961	126,609	128,545,474	1931
.....	.....	965,244	15,046	.....	.....	.....	17,322,795	51,864	141,275,272	1932
.....	.....	999,624	13,727	.....	.....	.....	17,242,324	44,747	224,571,703	1933
.....	.....	888,262	12,752	.....	.....	5,516	14,725,703	38,414	199,077,689	1934
.....	.....	S839,200	T, R12,150	.....	.....	T	14,226,750	R24,300	194,115,650	P1935
2,984,675	277,851	S116,178,537	T, R5,326,909	.....	.....	T5,516	87,132,557	R22,402,924	1,146,325,351	Total

GENERAL NOTE: In addition to figures shown above, the following information is available on the district, being from annual volumes of *Mineral Resources*: About 1867, according to *Mineral Resources* of 1897, the first development of oil in Texas was near Nacogdoches, when oil was found at Oil Springs, about 15 miles south of town. Nearly 100 wells were sunk at that time, and high gravity oil was found at about 100 feet. Also small oil production (no record available) was reported near Palestine, Anderson County, in 1902 and 1907; and on the Prather farm, four miles west of Waco, McLennan County, in 1916 and 1917.

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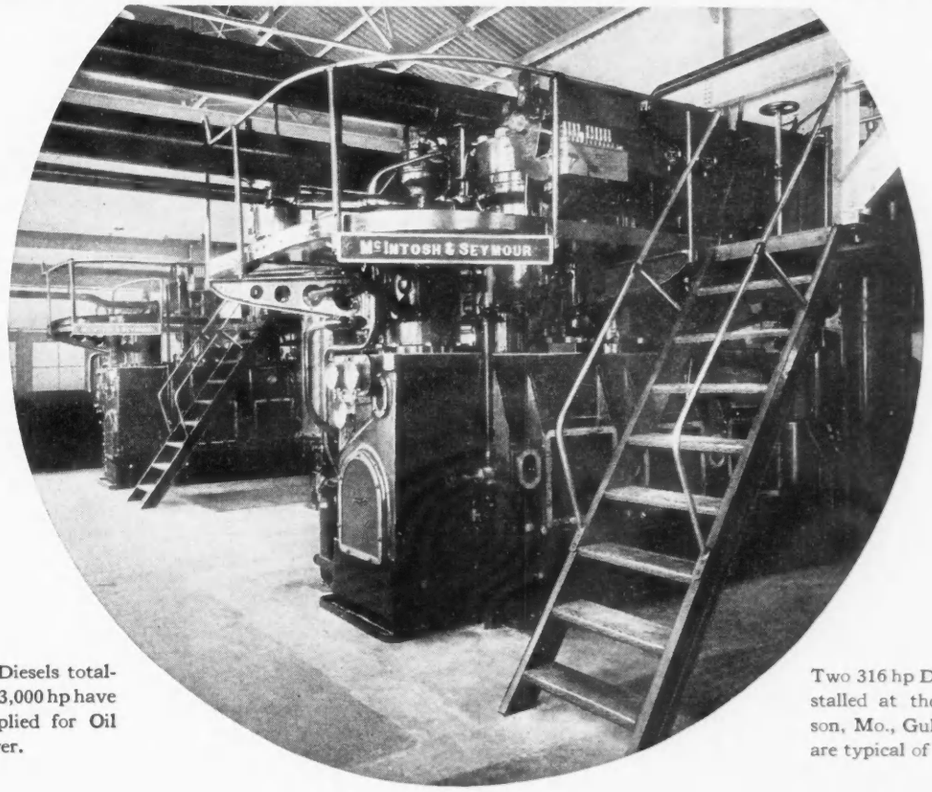
McINTOSH & SEYMOUR DIESELS



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Ohio Crude Oil Production, by Fields, by Years

Complete Production History of State, in Barrels of 42 U. S. Gallons.

(Sources.—Annual Volumes of *Mineral Resources* and *Minerals Yearbook*.)

YEAR	Mecca-Belden District	Northwestern Ohio (Lima)	Central and Eastern Ohio	Total Ohio
1860-1875			[A]	[A]
1876			31,763	31,763
1877			29,888	29,888
1878			36,179	36,179
1879			29,112	29,112
1880			38,940	38,940
1881			33,867	33,867
1882			39,761	39,761
1883			47,632	47,632
1884			90,081	90,081
1885	[B]	34,494	627,086	661,580
1886	[B]	1,064,025	718,945	1,782,970
1887	[B]	4,650,375	372,257	5,022,632
1888	[B]	9,682,683	328,185	10,010,868
1889	1,240	12,153,189	317,037	12,471,466
1890	1,440	15,014,882	1,108,334	16,124,656
1891	1,440	17,315,978	422,883	17,740,301
1892	3,112	15,169,507	1,190,302	16,362,921
1893	1,571	13,646,804	2,601,394	16,249,769
1894	940	13,607,844	3,183,370	16,792,154
1895	1,376	15,850,609	3,693,248	19,545,233
1896	666	20,575,138	3,365,365	23,941,169
1897	645	18,682,677	2,877,193	21,560,515
1898	682	16,590,416	2,147,610	18,738,708
1899	700	16,377,174	4,764,135	21,142,108
1900	2,283	16,884,358	5,476,089	22,362,730
1901	940	16,176,293	5,470,850	21,648,083
1902	135	15,877,730	5,136,366	21,014,231
1903	575	14,893,853	5,585,858	20,480,286
1904	425	13,350,060	5,526,146	18,876,631
1905	99	11,329,924	5,016,646	16,346,660
1906	180	9,881,184	4,906,399	14,787,763
1907	93	7,993,057	4,214,298	12,207,448
1908	186	6,748,676	4,109,935	10,858,797
1909	367	5,915,357	4,717,069	10,632,793
1910	41	5,094,136	4,822,193	9,916,370
1911	64	4,535,875	4,281,173	8,817,112
1912	59	[C]3,955,897	5,013,051	[C]8,969,007
1913		3,817,043	4,964,425	8,781,468
1914		3,727,087	4,809,265	8,536,352
1915		3,393,833	4,431,493	7,825,326
1916		3,135,967	4,608,544	7,744,511
1917		2,910,861	4,839,679	7,750,540
1918		2,343,164	4,941,841	7,285,005
1919		2,514,000	5,222,000	7,736,000
1920		2,115,000	5,285,000	7,400,000
1921		2,137,000	5,198,000	7,335,000
1922		2,030,000	4,751,000	6,781,000
1923		2,154,000	4,931,000	7,085,000
1924		2,018,000	4,793,000	6,811,000
1925		1,940,000	5,272,000	7,212,000
1926		1,880,000	5,392,000	7,272,000
1927		1,709,000	5,884,000	7,593,000
1928		1,581,000	5,434,000	7,015,000
1929		1,484,000	5,259,000	6,743,000
1930		1,312,000	5,174,000	6,486,000
1931		1,115,000	4,212,000	5,327,000
1932		1,065,000	3,579,000	4,644,000
1933		1,032,000	3,203,000	4,235,000
1934 [D]		976,000	3,258,000	4,234,000
1935 [E]		919,000	3,163,000	4,082,000
Total	19,349	370,361,150	200,975,887	571,356,386

(Continued to column to right)

[A] *Arnold and Kemnitzer* estimate that 200,000 barrels were produced in the years from 1860 to 1875.

[B] Very small production, chiefly by tunneling, included with Central and Eastern.

[C] Includes production of Michigan.

[D] From Bureau of Mines final annual summary on petroleum for 1934.

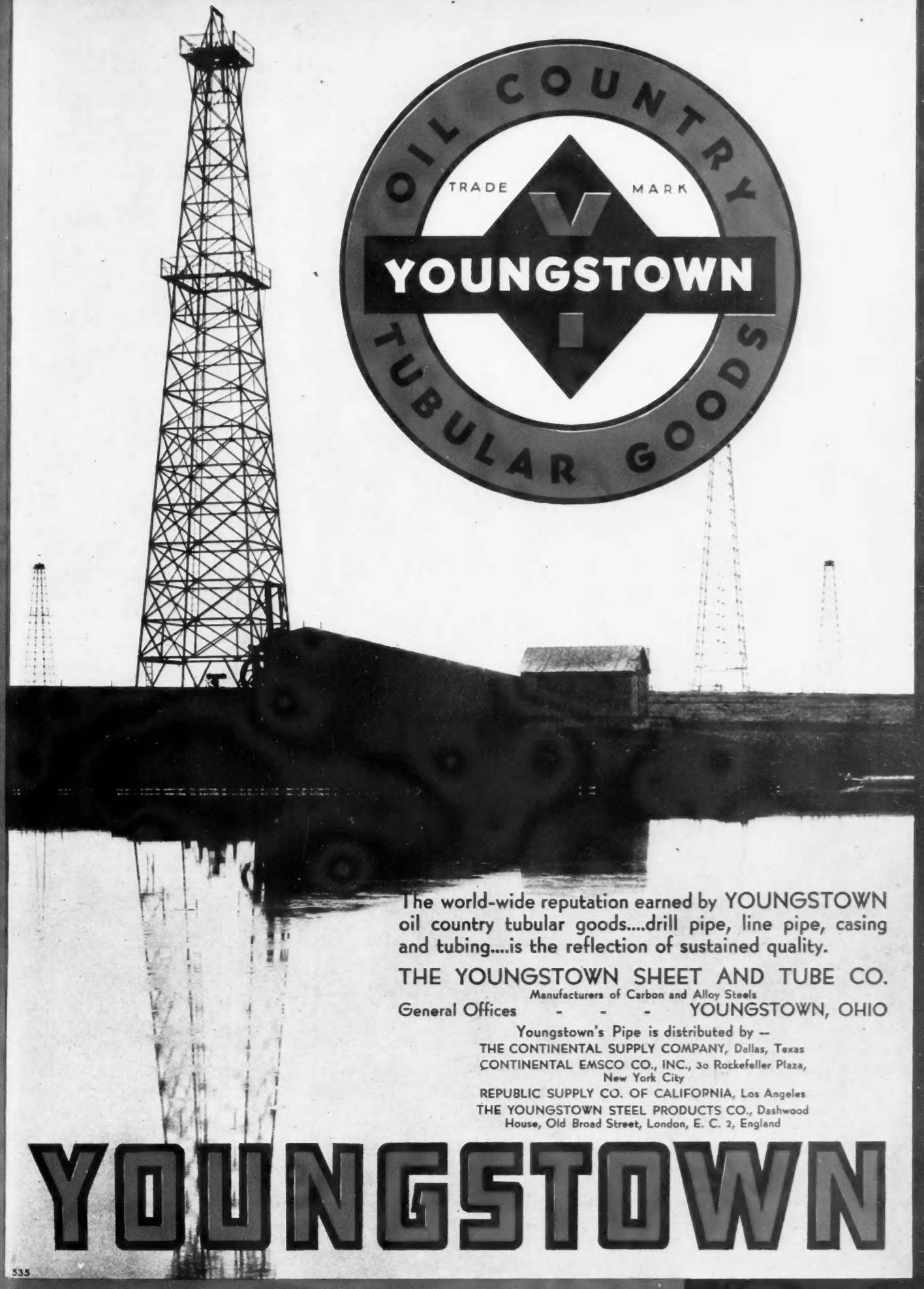
[E] Bureau of Mines figures for first 11 months; December estimated by THE OIL WEEKLY.

Wyoming Crude Oil Production, by Fields, by Years

Complete Production History of State, in Barrels of 42 U. S. Gallons.

(Sources.—Annual Volumes of *Mineral Resources* and *Minerals Yearbook*.)

YEAR	Big Muddy Converse-Natrona Counties	Byron-Greybull-Torchlight Big Horn County	Elk Basin Park County	Frannie Park County	Garland Big Horn County	Grass Creek Hot Springs County	Hamilton Dome-Warm Springs Hot Springs County	La Barge Lincoln-Sublette Counties	Lance Creek Niobrara County	Lander-Dallas-Derby Dome Fremont County	Lost Soldier-Ferris Sweetwater-Carbon Counties	Mule Creek Niobrara County
[A]1882												
[B]1885												
1888										C		
1889										C		
[D]1897										C		
1898										C		
1913												
1914		96,178								27,395		
1915	F	140,978	F			98,723				27,660		
1916	F	139,854	720,988			1,369,807				62,564		
1917	665,432	62,040	1,530,264			2,756,402				49,797		
1918	3,082,026	45,260	1,066,836			2,951,455				48,183		
1919	3,104,000	27,000	740,000			2,049,000			461,000	62,000	167,000	
1920	2,083,000	69,000	732,000			1,573,000	57,000		353,000	84,000	135,000	182,000
1921	1,927,000	80,000	681,000			1,435,000	67,000		346,000	119,000	524,000	68,000
1922	1,506,000	70,000	652,000			1,784,000	111,000		282,000	149,000	751,000	168,000
1923	1,527,000	57,000	634,000			1,589,000	216,000		363,000	137,000	1,551,000	
1924	1,272,000	33,000	409,000			1,113,000	239,000		786,000	133,000	1,775,000	178,000
1925	1,223,000	30,000	314,000			1,240,000	264,000		360,000	152,000	1,746,000	129,000
1926	1,215,000	F	273,000			1,025,000	319,000	70,000	540,000	165,000	2,059,000	
1927	1,072,000	28,000	337,000			974,000	313,000	341,000	269,000	246,000	1,341,000	188,000
1928	962,000	25,000	360,000			871,000	298,000	490,000	217,000	247,000	1,442,000	142,000
1929	802,000	26,000	265,000			778,000	355,000	805,000	87,000	209,000	1,311,000	141,000
1930	711,000	49,000	264,000	F		729,000	300,000	747,000	60,000	252,000	1,271,000	29,000
1931	649,000	3,000	250,000	214,000		746,000	87,000	466,000	94,000	358,000	1,349,000	
1932	610,000	7,000	190,000	161,000	379,000	787,000	308,000	381,000	38,000	375,000	1,003,000	2,000
1933	650,000	J	203,000	85,000	[J]181,000	274,000	254,000	349,000	41,000	330,000	632,000	F
[K]1934	642,050		199,800			344,200		449,100	113,500		568,800	
[K]1935	597,450		104,200			702,750		455,400	616,350		541,100	
Total	24,299,958	988,310	9,926,088	460,000	560,000	25,190,337	3,188,000	4,553,500	5,026,850	3,233,599	18,166,900	1,227,000



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Wyoming Crude Oil Production, by Fields, by Years—(Continued)

Complete Production History of State, in Barrels of 42 U. S. Gallons.

(Sources.—Annual Volumes of *Mineral Resources* and *Minerals Yearbook*.)

YEAR	Notches Natrona County	Oregon Basin Park County	Osage Weston County	Pilot Butte Fremont County	Poison Spider-South Casper Natrona County	Rex Lake Albany County	Rock Creek Carbon County	Salt Creek Natrona County	Teapot Natrona County	Unclassified	Total Wyoming
[A]1882											A
1883-1884											
[B]1885											B
1886-1887										C	C
1888											C
1889											C
1890-1893											
1894								2,369			2,369
1895										3,455	3,455
1896										2,878	2,878
[D]1897								C		3,650	3,650
1898								C		5,475	5,475
1899										5,560	5,560
1900										5,450	5,450
1901										5,400	5,400
1902										6,253	6,253
1903										8,960	8,960
1904										11,542	11,542
1905										8,454	8,454
1906										7,000	7,000
1907										[E]9,339	[E]9,339
1908										[E]17,775	[E]17,775
1909										[E]20,056	[E]20,056
1910										[E]115,430	[E]115,430
1911										[E]186,695	[E]186,695
1912										[E]1,572,306	[E]1,572,306
1913										2,406,522	2,406,522
1914								3,421,325		15,477	3,560,375
1915				G				3,971,128		7,038	4,245,527
1916				G				3,933,403		7,521	6,234,137
1917				G				3,910,511		4,234	8,978,680
1918				62,000				5,336,927		3,600	12,596,287
1919				91,000			242,000	6,225,000		4,000	13,172,000
1920			16,000	69,000			1,370,000	10,090,000		18,000	16,831,000
1921			176,000	46,000			1,681,000	12,172,000		11,000	19,333,000
1922			182,000	38,000			1,728,000	19,248,000	37,000	9,000	26,715,000
1923	61,000		178,000	29,000	F		1,429,000	35,770,000	1,156,000	88,000	44,785,000
1924	39,000		146,000	29,000	229,000	41,000	1,181,000	30,874,000	1,004,000	17,000	39,498,000
1925	35,000		109,000	25,000	297,000	20,000	1,087,000	21,445,000	632,000	65,000	29,173,000
1926	34,000		113,000	20,000	[H]376,000	53,000	1,029,000	18,010,000	426,000	49,000	25,776,000
1927	24,000		107,000	17,000	247,000	44,000	982,000	14,399,000	314,000	64,000	21,307,000
1928		882,000	133,000	19,000	327,000	18,000	928,000	14,023,000		77,000	21,461,000
1929		1,540,000	166,000	18,000	[I]446,000	36,000	842,000	11,377,000		110,000	19,314,000
1930		1,285,000	385,000	16,000	[I]323,000	6,000	770,000	10,520,000	11,000	140,000	17,868,000
1931		393,000	419,000	14,000	[I]199,000		682,000	8,834,000		77,000	14,834,000
1932		130,000	394,000	12,000	91,000		477,000	8,006,000		67,000	13,418,000
1933		252,000	241,000	2,000	167,000	4,000	464,000	7,009,000		79,000	11,227,000
[K]1934		681,950					558,650	6,612,650		2,200,400	12,371,100
[K]1935		1,078,850					559,300	6,297,200		2,318,800	13,271,400
Total	193,000	6,242,800	2,765,000	517,000	2,702,000	222,000	16,009,950	261,487,513	3,580,000	9,834,270	400,374,075

[A] *Mineral Resources* reported there was small production, but no record available, at Sweet Water Valley, Laramie County, in 1882.

[B] *Mineral Resources* reported for 1885 that there were seeps in evidence in the Rattlesnake area, and that there was little production, but no record available in the Shoshone Basin; in the North Platte area, Freemont County; and in the Bear River area, Uinta County.

[C] Small production reported, but no record available.

[D] *Mineral Resources* reported for 1897 that there was little production, but no record available at Shoshone Basin.

[E] Wyoming total includes insignificant production of Utah.

[F] Included under "Unclassified".

[G] Pilot Butte had small production, but no market was available.

[H] Poison Spider in 1926 includes Iron Creek and Simpson Ridge.

[I] Poison Spider includes Simpson Ridge.

[J] Garland includes Byron.

[K] All figures for year calculated by THE OIL WEEKLY from weekly reports of the American Petroleum Institute.

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New York Detroit Chicago
St. Louis Tulsa Houston
Los Angeles San Francisco

[1]California Crude Oil Production, by Fields, by Years

Complete Production History of State, in Barrels of 42 U. S. Gallons

(Sources.—Data furnished by state and federal bureaus, the Independent Oil Producers' Agency, and the American Petroleum Institute.)

YEAR	Kern River	Mt. Poso	Round Mountain	Fruitvale	McKittrick	Midway	Sunset	Elk Hills	Lost Hills-Belridge	Coalinga	Kettleman North Dome	Wheeler Ridge	Santa Maria-Lompoc	Summerland
Prior	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1876	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1877	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1878	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1879	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1880	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1881	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1882	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1883	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1884	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1885	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1886	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1887	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1888	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1889	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1890	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1891	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1892	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1893	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1894	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,800
1895	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16,904
1896	.....	.....	.....	.....	.....	.....	.....	.....	.....	14,119	.....	.....	.....	39,792
1897	.....	.....	.....	.....	.....	.....	.....	.....	.....	70,140	.....	.....	.....	130,136
1898	.....	.....	.....	.....	10,000	.....	.....	.....	.....	154,000	.....	.....	.....	132,217
1899	.....	.....	.....	.....	15,000	.....	.....	.....	.....	439,372	.....	.....	.....	208,370
1900	826,775	.....	.....	.....	80,000	.....	12,500	.....	.....	547,960	.....	.....	.....	183,486
1901	3,278,840	.....	.....	.....	430,450	4,235	188,600	.....	.....	525,433	.....	.....	.....	203,616
1902	8,988,046	.....	.....	.....	619,296	3,048	167,558	.....	.....	571,233	.....	.....	94,188	136,252
1903	16,342,099	.....	.....	.....	1,353,206	27,305	352,565	.....	[2]	2,138,058	.....	.....	204,890	131,125
1904	17,226,240	.....	.....	.....	1,856,225	910	390,425	.....	.....	5,097,853	.....	.....	700,450	120,506
1905	15,253,845	.....	.....	.....	1,373,030	18,530	419,212	.....	.....	8,882,125	.....	.....	3,402,800	96,871
1906	12,825,166	.....	.....	.....	680,756	11,800	307,550	.....	.....	8,401,105	.....	.....	4,799,411	72,810
1907	12,346,014	.....	.....	.....	2,415,840	149,944	704,805	.....	.....	8,996,268	.....	.....	8,249,236	69,060
1908	13,803,579	.....	.....	.....	3,076,300	434,578	1,463,510	.....	.....	10,725,795	.....	.....	8,699,350	67,862
1909	14,508,242	.....	.....	.....	5,807,360	2,234,455	1,999,701	.....	.....	15,406,619	.....	.....	8,017,455	66,338
1910	14,776,435	.....	.....	.....	5,471,613	11,174,207	9,218,904	.....	4,900	18,646,570	.....	.....	7,607,830	74,725
1911	14,078,890	.....	.....	.....	5,477,532	21,584,602	5,559,069	.....	168,410	18,311,251	.....	.....	7,465,074	71,255
1912	12,446,445	.....	.....	.....	5,094,465	25,948,980	5,590,824	.....	2,680,961	19,546,122	.....	.....	6,801,966	65,715
1913	9,980,940	.....	.....	.....	4,496,842	33,040,129	5,984,651	.....	5,274,553	18,604,626	.....	.....	5,817,711	62,406
1914	7,030,545	.....	.....	.....	3,820,857	37,479,228	12,546,615	.....	4,830,921	15,925,887	.....	.....	4,303,080	55,743
1915	8,034,974	.....	.....	.....	3,552,801	33,311,486	6,006,607	.....	4,318,550	13,548,159	.....	.....	4,536,840	53,000
1916	8,402,525	.....	.....	.....	3,230,644	32,156,818	6,768,658	.....	4,852,431	14,381,493	.....	.....	4,422,410	56,775
1917	8,495,610	.....	.....	.....	3,252,544	29,487,812	7,072,333	.....	6,295,329	15,938,543	.....	.....	5,798,070	56,570
1918	7,921,515	.....	.....	.....	3,050,627	27,439,993	6,608,940	.....	5,420,079	16,283,066	.....	.....	7,143,750	54,613
1919	7,563,025	.....	.....	.....	2,810,848	26,133,048	5,589,885	281,019	4,554,821	16,385,610	.....	.....	6,030,910	53,680
1920	7,456,515	.....	.....	.....	2,607,240	25,217,420	5,423,781	7,275,809	4,139,767	15,464,198	.....	.....	5,928,060	54,910
1921	6,715,680	.....	.....	.....	2,056,101	24,172,350	4,613,965	18,085,425	3,261,281	12,340,637	.....	.....	5,563,324	54,155
1922	7,317,288	.....	.....	.....	2,417,434	24,152,026	5,542,816	11,891,030	2,814,824	9,159,368	.....	.....	3,797,903	48,339
1923	6,816,134	.....	.....	.....	2,191,702	27,803,281		8,174,371	1,843,483	5,210,839	.....	128,674	3,003,672	52,862
1924	6,773,321	.....	.....	.....	2,094,598	37,464,889		13,589,611	1,526,371	10,144,428	.....	342,357	2,857,495	53,201
1925	5,901,877	.....	.....	.....	2,091,971	36,923,402		11,971,149	1,730,140	7,751,107	.....	344,760	2,596,581	48,351
1926	4,358,396	.....	.....	.....	1,961,028	33,968,755		12,292,754	1,693,666	7,295,807	.....	371,981	1,852,356	46,865
1927	6,098,582	40,277	8,700	.....	1,855,603	31,670,708		10,073,073	1,515,300	7,154,599	.....	374,734	1,999,051	49,475
1928	5,071,284	53,977	44,455	133,433	1,805,485	27,314,093		8,107,198	1,526,491	4,655,284	199,699	329,485	2,041,499	44,853
1929	6,089,344	1,826,056	223,734	594,498	1,708,520	25,310,976		6,353,035	1,602,425	3,558,843	1,951,786	250,156	1,535,815	93,826
1930	5,349,915	3,883,924	1,194,832	903,337	1,489,628	23,487,147		6,572,379	1,313,475	3,373,078	6,209,357	219,237	1,152,893	118,042
1931	3,857,474	3,009,374	245,426	867,719	903,722	18,728,461		4,925,636	2,983,749	2,978,392	17,544,824	192,897	1,015,205	59,115
1932	3,387,262	2,907,839	928,814	1,600,801	651,792	17,929,036		4,537,461	3,329,984	3,649,578	21,949,072	187,299	1,080,723	39,386
1933	3,210,010	3,050,826	1,118,913	1,672,805	651,361	17,541,812		4,487,978	3,205,873	4,423,512	21,472,041	168,918	1,254,818	31,434
1934	3,727,513	3,455,933	1,823,810	1,348,413	1,100,229	19,729,757		3,354,616	4,374,298	6,644,817	21,264,839	156,512	1,814,075	20,765
1935	4,528,028	5,449,242	2,318,469	1,850,571	1,402,962	20,243,760		3,228,586	5,400,563	7,275,342	27,569,892	152,810	1,536,498	14,383
Totals	300,788,373	23,677,448	7,907,153	8,971,577	84,965,612	784,832,455		135,201,130	80,662,645	340,621,236	118,161,510	3,219,820	133,125,389	3,111,589

Figures for MIDWAY and SUNSET fields are combined after 1922

[1]For 1934, actual production for first 11 months; estimated for December. [2]Edison.

[1]California Crude Oil Production, by Fields, by Years—Continued

Complete Production History of State, in Barrels of 42 U. S. Gallons

(Sources.—Data furnished by state and federal bureaus, the Independent Oil Producers' Agency, and the American Petroleum Institute.)

YEAR	Elwood Goleta	Rincon	Ventura Avenue	Ventura Co. and Newhall	Los Angeles and Salt Lake	Whittier	Fullerton (Brea Olinda)	Coyote	Santa Fe Springs	Montebello	Richfield	Huntington Beach	Long Beach	Torrance
Prior	.....	.....	.....	175,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1876	.....	.....	.....	12,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1877	.....	.....	.....	13,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1878	.....	.....	.....	15,227	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1879	.....	.....	.....	19,858	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1880	.....	.....	.....	40,552	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1881	.....	.....	.....	99,862	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1882	.....	.....	.....	128,636	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1883	.....	.....	.....	142,857	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1884	.....	.....	.....	262,000	.....	.....	Early production included under Newhall and Ventura County	.....	.....	.....	.....	.....	.....	.....
1885	.....	.....	.....	325,000	.....	.....		.....	.....	.....	.....	.....	.....	.....
1886	.....	.....	.....	377,145	.....	.....		.....	.....	.....	.....	.....	.....	.....
1887	.....	.....	.....	678,572	.....	.....		.....	.....	.....	.....	.....	.....	.....
1888	.....	.....	.....	690,333	.....	.....		.....	.....	.....	.....	.....	.....	.....
1889	.....	.....	.....	303,220	.....	.....		.....	.....	.....	.....	.....	.....	.....
1890	.....	.....	.....	307,360	.....	.....		.....	.....	.....	.....	.....	.....	.....
1891	.....	.....	.....	323,600	.....	.....		.....	.....	.....	.....	.....	.....	.....
1892	.....	.....	.....	385,049	.....	.....		.....	.....	.....	.....	.....	.....	.....
1893	.....	.....	.....	470,179	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1894	.....	.....	.....	570,469	196,094	.....	.....	.....	.....	.....	.....	.....	.....	.....
1895	.....	.....	.....	474,624	749,695	.....	.....	.....	.....	.....	.....	.....	.....	.....
1896	.....	.....	.....	298,866	902,868	.....	.....	.....	.....	.....	.....	.....	.....	.....
1897	.....	.....	.....	631,135	1,064,158	.....	12,000	.....	.....	.....	.....	.....	.....	.....
1898	.....	.....	.....	763,871	1,126,000	.....	60,000	.....	.....	.....	.....	.....	.....	.....
1899	.....	.....	.....	743,998	1,052,036	.....	217,599	.....	.....	.....	.....	.....	.....	.....
1900	.....	.....	.....	628,734	1,280,000	.....	511,550	.....	.....	.....	.....	.....	.....	.....
1901	.....	.....	.....	495,943	1,830,000	.....	753,198	.....	.....	.....	.....	.....	.....	.....
1902	.....	.....	.....	646,496	2,027,000	.....	1,103,793	.....	.....	.....	.....	.....	.....	.....
1903	.....	.....	.....	682,185	793,765	.....	2,305,613	.....	.....	.....	.....	.....	.....	.....
1904	.....	.....	.....	650,779	1,241,304	.....	2,224,550	.....	.....	.....	.....	.....	.....	.....
1905	.....	.....	.....	476,898	2,226,768	.....	2,118,312	.....	.....	.....	.....	.....	.....	.....
1906	.....	.....	.....	404,379	2,675,650	.....	2,434,512	.....	.....	.....	.....	.....	.....	.....
1907	.....	.....	.....	435,584	3,372,465	.....	3,294,206	.....	.....	.....	.....	.....	.....	.....
1908	.....	.....	.....	498,015	5,138,959	.....	4,273,314	.....	.....	.....	.....	.....	.....	.....
1909	.....	.....	Early production included under Newhall and Ventura County	516,628	4,350,898	.....	5,157,252	.....	.....	.....	.....	.....	.....	.....
1910	.....	.....		652,575	3,729,618	.....	6,281,221	.....	.....	.....	.....	.....	.....	.....
1911	.....	.....		661,785	3,223,661	.....	7,081,165	.....	.....	.....	.....	.....	.....	.....
1912	.....	.....		859,885	3,073,427	747,439	5,813,037	1,359,303	.....	.....	.....	.....	.....	.....
1913	.....	.....		1,022,052	2,898,846	690,133	6,189,561	3,777,359	.....	.....	.....	.....	.....	.....
1914	.....	.....		968,421	2,504,475	636,789	6,495,100	6,998,659	.....	.....	.....	.....	.....	.....
1915	.....	.....		1,036,305	2,110,133	758,163	5,661,878	6,610,508	.....	.....	.....	.....	.....	.....
1916	.....	.....		1,122,033	1,721,453	1,014,667	5,076,306	8,588,699	.....	.....	.....	.....	.....	.....
1917	.....	.....		1,186,407	1,501,799	1,156,752	4,750,582	11,458,471	.....	789,635	.....	.....	.....	.....
1918	.....	.....		1,386,518	1,397,781	1,046,467	4,403,281	12,614,598	.....	6,839,267	.....	.....	.....	.....
1919	.....	.....	.....	1,792,465	1,341,415	1,001,048	4,350,084	10,240,359	.....	12,100,784	965,408	.....	.....	.....
1920	.....	.....	.....	2,122,449	1,311,264	842,184	5,391,497	8,732,435	.....	11,124,585	2,565,346	38,116	.....	.....
1921	.....	.....	.....	2,375,479	1,344,926	735,376	6,012,839	7,419,050	208,216	9,065,723	8,206,962	2,518,812	75,588	.....
1922	.....	.....	.....	3,015,877	1,258,287	717,729	4,512,974	7,000,373	11,032,955	6,692,024	8,314,528	11,169,383	18,560,595	190,785
1923	.....	.....	.....	3,702,404	1,192,036	645,219	4,064,661	2,447,825	79,781,275	4,075,669	6,121,335	34,355,642	68,810,361	3,128,694
1924	.....	.....	.....	4,020,169	907,453	761,211	4,120,789	5,683,559	26,399,655	6,230,299	4,457,679	17,533,520	60,122,002	17,526,123
1925	.....	.....	.....	9,263,472	731,912	742,676	4,481,443	7,140,004	18,969,528	6,843,194	4,318,488	15,887,474	40,173,375	13,242,113
1926	.....	.....	14,795,495	2,204,381	675,950	746,125	6,987,489	6,030,619	17,446,709	6,515,493	5,574,244	19,064,814	37,931,964	10,354,905
1927	86,840	5,923	17,808,704	2,197,644	630,600	660,505	7,008,934	5,146,864	15,153,578	5,498,252	7,884,042	26,344,697	34,541,667	8,338,938
1928	895,152	1,082,735	18,920,942	2,096,343	560,607	612,126	5,743,044	4,901,998	16,093,931	4,369,638	6,798,673	19,642,278	62,467,103	6,454,067
1929	9,435,819	1,192,237	20,934,388	1,856,706	552,614	563,790	4,813,942	4,176,035	76,477,464	3,657,922	5,776,258	16,007,030	60,495,555	5,000,218
1930	14,606,007	1,003,204	17,493,155	1,772,131	545,959	516,802	4,423,266	3,890,047	44,251,396	2,712,725	3,643,578	11,108,203	36,599,688	4,116,846
1931	10,470,056	710,178	15,255,256	1,325,625	464,564	474,261	3,626,008	3,751,857	24,272,660	2,446,052	2,433,186	7,778,549	30,166,409	2,191,781
1932	5,441,626	628,179	12,332,853	1,259,755	394,124	399,540	3,018,125	3,716,467	22,538,036	2,162,530	2,263,699	8,016,001	27,435,553	2,281,274
1933	4,918,488	680,471	12,576,208	1,199,997	313,810	404,128	2,964,674	3,698,372	18,271,807	1,933,121	2,467,913	13,091,926	24,798,242	2,362,719
1934	4,108,496	543,548	9,881,152	1,402,098	289,300	394,725	3,753,941	4,146,241	14,726,910	1,979,520	2,931,281	15,129,286	23,101,099	2,529,748
1935	4,564,806	676,456	10,986,096	1,478,064	292,177	379,568	3,636,201	4,552,972	16,163,733	2,280,079	2,818,724	15,185,343	26,487,238	2,509,553
Totals	54,527,290	6,522,931	150,984,249	65,669,094	64,995,851	16,647,423	155,127,941	144,082,674	401,787,853	97,316,512	77,541,344	232,871,074	551,766,439	80,227,764

[1]For 1934, actual production for first 11 months; estimated for December. [2]Edison.

[1]California Crude Oil Production, by Fields, by Years—Continued

Complete Production History of State, in Barrels of 42 U. S. Gallons

(Sources.—Data furnished by state and federal bureaus, the Independent Oil Producers' Agency, and the American Petroleum Institute.)

YEAR	Dominguez	Rosecrans	Inglewood	Seal Beach	Potrero	Playa del Rey	Capitan	Santa Barbara	Watsonville	Newport	Lawndale	San Miguelito	Kettleman Middle Dome	Mountain View	Miscellaneous	TOTAL
Prior																175,000
1876																12,000
1877																13,000
1878																15,227
1879																19,858
1880																40,552
1881																99,862
1882																128,636
1883																142,857
1884																262,000
1885																325,000
1886																377,145
1887																678,572
1888																690,333
1889																303,220
1890																307,360
1891																323,600
1892																385,049
1893																470,179
1894															14,715	783,078
1895															4,116	1,245,339
1896															2,135	1,257,780
1897															4,000	1,911,569
1898															3,000	2,249,088
1899															1,500	2,677,875
1900															248,945	4,319,950
1901																7,710,315
1902																14,356,910
1903															3,670	24,334,481
1904															39,392	29,548,634
1905															29,650	34,298,041
1906															10,090	32,623,229
1907															69,090	40,102,512
1908															125,475	48,306,737
1909															126,775	58,191,723
1910															58,970	77,697,568
1911															61,350	83,744,044
1912															45,870	90,074,439
1913															27,375	97,867,184
1914															27,375	103,623,695
1915															27,375	89,566,779
1916															27,450	91,822,362
1917															27,375	97,267,832
1918															27,375	101,637,870
1919															27,375	101,221,784
1920															25,610	105,721,186
1921															24,035	114,849,924
1922															20,338	139,626,876
1923	157,698														21,058	263,728,895
1924	6,811,531	611,432	10,445												20,979	230,063,117
1925	13,328,817	7,263,466	18,348,395												53,647	230,147,342
1926	7,801,586	6,114,430	17,390,131	587,107											53,963	224 117,013
1927	5,887,645	3,506,116	12,751,556	16,424,929	571										33,356	230,751,463
1928	4,267,009	2,392,325	10,762,797	12,436,371	107,380										50,842	231 982,597
1929	3,606,850	2,463,808	8,768,101	14,418,305	271,446	25,121									444,288	292,036,911
1930	3,694,075	2,435,341	6,429,205	8,026,796	638,268	4,719,981	25,295	12,851	22,764	14,600	130,472					228,099,899
1931	4,183,052	1,344,452	5,289,125	4,882,115	353,160	9,759,018	53,183	110,880	22,795	6,897	121,670	24,249				188,829,032
1932	6,823,579	1,125,624	4,869,335	4,522,489	252,609	5,910,926	3,092	156,446	22,824	927	110,350	252,247	10,537			178,127,794
1933	6,626,605	1,080,247	4,059,973	3,991,901	141,791	4,059,240	24,621	249,426	21,999		79,460	390,559	151,979	233,341		173,083,319
1934	6,652,776	1,040,392	3,380,997	3,515,242	150,340	3,195,240	191,757	607,231	22,040		53,738	268,225	131,332	2,615,360	[2]120,770	175,678,362
1935	7,913,492	997,451	4,476,677	3,377,240	135,052	5,703,563	529,881	1,150,478	21,865	101	65,731	286,132	31,298	9,239,871	988,572	207,899,520
Totals	77,754,715	30,375,084	96,536,737	72,182,495	2,050,617	33,373,089	827,829	2,287,312	134,287	22,525	561,421	1,221,412	325,146	12,088,572	2,897,901	4,457,953,518

[1]For 1934, actual production for first 11 months; estimated for December. [2]Edison

1935 Annual Field Statistical Review 1935

Wells Drilled for Oil and Gas in the United States—1859-1935

YEAR	Wells Completed	Producers	Gas Wells	Failures	Initial Production	Average per Well
1859—1922[1]	615,353	481,863	14,542[2]	118,948	18,842,525[3]	.....
(Following figures taken from weekly statistics as reported to and published in THE OIL WEEKLY)						
1923	20,513	13,407	1,892	5,214	5,920,019	395
1924	21,713	14,311	2,250	5,152	3,248,211	227
1925	25,406	16,162	2,644	6,600	4,640,924	183
1926	28,995	17,787	2,848	8,360	3,876,811	218
1927	22,301	13,396	2,586	6,319	4,628,246	345
1928	19,964	10,982	2,733	6,249	6,406,370	583
1929	23,463	13,125	3,109	7,229	6,404,145	488
1930	19,848	10,745	3,006	6,097	10,443,833	972
1931	11,716	6,618	2,090	3,008	31,590,024	4,773
1932	14,290	10,151	1,012	3,127	49,471,119	4,873
1933	11,700	7,322	1,003	3,375	21,888,052	2,990
1934	17,508	11,552	1,324	4,632	31,345,350	2,713
1935	20,751	13,486	1,729	5,536	32,135,351	2,383
Totals.....	873,521	640,907[5]	42,768[4]	189,846	230,840,980[6]	(3)

[1] Taken from Annual Bulletins of the United States Bureau of Mines.
[2] Gas wells during the period prior to 1916 were included with producers.
[3] Initial production prior to 1916 not available.
[4] Includes only gas wells completed since 1916.
[5] Includes gas wells completed prior to 1916.
[6] Includes only initial production reported since 1916.

United States Drilling and Production

Summary and Comparison, 1935-1934, by Regions and States

(Sources.—All drilling statistics compiled from well records published in THE OIL WEEKLY, except those for California, which are from monthly reports of the American Petroleum Institute covering first 11 months, with December estimated by THE OIL WEEKLY.)

STATE OR REGION	Completions		Oil Wells		Gas Wells		Failures		Initial Oil Production Barrels Daily		Total Barrels Oil Production [A]	
	1935	1934	1935	1934	1935	1934	1935	1934	1935	1934	1935	1934
Oklahoma	2,320	1,925	1,469	1,222	118	95	733	608	2,625,744	989,927	181,152,000	176,506,550
Kansas	1,314	926	909	632	37	21	368	273	841,981	327,090	53,013,400	45,577,050
Texas [B]	11,906	9,912	8,669	7,307	264	268	2,973	2,337	26,700,354	28,728,266	377,747,050	358,128,700
Louisiana [B]	732	801	365	400	93	78	274	323	406,900	196,021	50,299,900	32,572,900
Arkansas	123	93	45	35	4	1	74	57	8,446	8,645	11,140,800	11,412,100
Eastern States [C]	2,465	2,265	726	946	1,049	765	690	554	14,749	27,926	38,348,800	36,624,950
Michigan	602	483	299	298	99	47	204	138	161,935	185,293	15,661,300	10,589,600
Southeastern States [C]	20	43	.....	.....	5	9	15	34	.....	.....	.....	.....
Rocky Mountain States [C]	256	256	191	157	20	32	45	67	61,201	31,208	19,138,650	16,716,550
New Mexico	302	129	240	100	6	7	56	22	664,609	265,340	19,196,550	16,529,050
California	1,092	675	736	455	35	1	321	219	662,689	585,634	207,899,520	175,678,362
Totals	21,132	17,508	13,649	11,552	1,730	1,324	5,753	4,632	32,148,608	31,345,350	973,597,970 [A]	880,335,812 [A]

[A] Arrived at by calculating weekly estimates of American Petroleum Institute for individual fields as shown in tabulations on following pages. The American Petroleum Institute basis production figures do not conform with official figures of the Bureau of Mines for 1934, which appear elsewhere in this issue; or with 1935 figures as presented in this issue by calculating on a Bureau of Mines basis for 11 months, with December estimated by THE OIL WEEKLY. The difference between the two sets of figures is accounted for by the fact the American Petroleum Institute does not attempt to account for surreptitiously produced crude oil, of which there was apparently considerable both in 1935 and 1934, particularly in the East Texas field. The official United States production, Bureau of Mines figure for 1934 was 908,065,000 barrels; the corresponding figure for 1935, with December estimated, is 994,754,000 barrels.
[B] Table follows, giving 1935-1934 comparison by major districts.
[C] Table follows, giving 1935-1934 comparison by individual states.

On the following pages will be found complete drilling and production statistics on fields and districts in the United States. The figures show wells completed, producers, gas wells, failures, initial production, and where available, total production for 1935. For comparison with previous years see the Annual Statistical Number of The Oil Weekly, January 28, 1935, and previous years.

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Arkansas

Summary and Comparison, 1935-1934, for Principal Areas of Arkansas

COUNTY OR FIELD	Completions		Oil Wells		Gas Wells		Failures		Initial Oil Production (Barrels Daily)		Total Barrels Oil Production	
	1935	1934	1935	1934	1935	1934	1935	1934	1935	1934	1935	1934
Miller County	21	25	7	13	.....	.....	14	12	1,460	2,535	.....	.....
Ouachita County	16	9	2	3	.....	.....	14	6	110	40	.....	.....
Union County	60	30	33	17	3	.....	24	13	6,821	6,040	.....	.....
Other Counties	26	29	3	2	1	1	22	26	55	30	.....	.....
Smackover (Light) Production	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	826,250	877,400
Smackover (Heavy) Production	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6,609,900	7,178,050
Champagnolle Production	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	887,050	516,300
Other Production	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,817,600	2,840,350
Total	123	93	45	35	4	1	74	57	8,446	8,645	11,140,800	11,412,100

Details for 1935 for all Areas in Arkansas, Page 142.

California

Summary and Comparison, 1935-1934, for Principal Areas of California

COUNTY OR FIELD	Completions		Oil Wells		Gas Wells		Failures		Initial Oil Production (Barrels Daily)		Total Barrels Oil Production	
	1935	1934	1935	1934	1935	1934	1935	1934	1935	1934	1935	1934
Huntington Beach	26	41	18	30	.....	.....	8	11	9,561	31,812	15,185,343	15,129,286
Kettleman Hills, Middle Dome	.....	1	.....	1	.....	.....	.....	.....	.....	1,250	31,298	131,332
Kettleman Hills, North Dome	38	41	34	40	.....	.....	4	1	148,196	284,596	27,569,892	21,264,839
Long Beach	147	104	122	86	.....	.....	25	18	32,991	20,769	26,487,238	23,101,099
Midway-Sunset	64	12	44	10	.....	.....	20	2	10,683	5,940	20,243,760	19,729,757
Mountain View	77	56	68	50	.....	.....	9	6	156,008	72,843	9,239,871	2,615,360
Santa Fe Springs	33	22	30	16	.....	.....	3	6	7,809	2,482	16,163,733	14,726,910
Rest of State	707	398	420	222	35	1	252	175	297,441	165,942	92,978,385	78,979,779
Total	1,092	675	736	455	35	1	321	219	662,689	585,634	207,899,520	175,678,362

Details for 1935 for all Areas of California, Page 130.

Eastern States

Summary and Comparison, 1935-1934, by States

STATE	Completions		Oil Wells		Gas Wells		Failures		Initial Oil Production (Barrels Daily)		Total Barrels Oil Production	
	1935	1934	1935	1934	1935	1934	1935	1934	1935	1934	1935	1934
New York	.....	14	.....	14	.....	.....	.....	.....	.....	190	.....	.....
Pennsylvania	109	262	24	194	56	42	29	26	181	2,199	.....	.....
Kentucky	179	281	130	193	11	4	38	84	5,364	13,529	.....	.....
West Virginia	483	436	117	150	267	204	99	82	1,177	3,608	.....	.....
Ohio	1,515	1,075	424	327	658	478	433	270	7,158	6,031	.....	.....
Illinois	9	18	5	5	.....	1	4	12	341	119	.....	.....
Indiana	170	179	26	63	57	36	87	80	528	2,250	.....	.....
Eastern States Production	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	38,348,800	36,624,950
Total	2,465	2,265	726	946	1,049	765	690	554	14,749	27,926	38,348,800	36,624,950

Details for 1935 for all Eastern States, Page 132.

Kansas

Summary and Comparison, 1935-1934, for Principal Areas of Kansas

COUNTY OR FIELD	Completions		Oil Wells		Gas Wells		Failures		Initial Oil Production (Barrels Daily)		Total Barrels Oil Production	
	1935	1934	1935	1934	1935	1934	1935	1934	1935	1934	1935	1934
Ellsworth County	101	22	78	14	2	1	21	7	101,582	6,294	.....	.....
McPherson County	104	182	71	136	4	1	29	45	16,699	64,431	.....	.....
Reno County	153	80	126	65	6	2	21	13	160,348	80,988	.....	.....
Rice County	216	122	180	88	5	4	31	30	150,523	71,514	.....	.....
Russell County	175	52	130	42	.....	.....	45	10	75,546	24,449	4,191,950	2,592,650
Burrton-Haury Field	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7,338,850	660,150
Ritz-Canton Field	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,058,550	4,726,150
Voshell Field	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,716,400	2,449,050
Lorraine Field	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,296,100	.....
Rest of State	565	468	324	287	20	13	221	168	337,283	79,414	35,411,550	35,149,050
Total	1,314	926	909	632	37	21	368	273	841,981	327,090	53,013,400	45,577,050

Details for 1935 for all Areas of Kansas, Page 146.

NOW . . . GOOD CORES ASSURED IN THE TOUGHEST FORMATIONS with this ELLIOTT HARD FORMATION Cutter Head!

Proved in service for more than a year—in the hardest rock formations, under the most severe conditions—this Elliott Hard Formation Cutter Head marks another important development in coring equipment by Elliott engineers. Simply, ruggedly built for the toughest coring, this tool comes to the attention of the industry with many decided advancements in design and construction—and a reputation for withstanding abusive wear without leaving anything in the hole.

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Bottom View, Elliott Hard Formation Cutter Head

The Elliott Hard Formation Cutter Head

Elliott Core Drills
ROTARY AND CABLE TOOL

1935 Annual Field Statistical Review 1935

Louisiana

Summary and Comparison, 1935-1934, by Districts

DISTRICT	Completions		Oil Wells		Gas Wells		Failures		Initial Oil Production (Barrels Daily)		Total Barrels Oil Production	
	1935	1934	1935	1934	1935	1934	1935	1934	1935	1934	1935	1934
North Louisiana	321	403	110	147	92	75	119	181	255,651	14,543	9,583,200	9,271,500
Louisiana Gulf Coast	411	398	255	253	1	3	155	142	151,249	181,478	40,716,700	23,301,400
Total	732	801	365	400	93	78	274	323	406,900	196,021	50,299,900	32,572,900

Details for 1935 for all Areas of Louisiana, Page 144.

Michigan

Summary and Comparison, 1935-1934, for Principal Areas of Michigan

COUNTY OR FIELD	Completions		Oil Wells		Gas Wells		Failures		Initial Oil Production (Barrels Daily)		Total Barrels Oil Production	
	1935	1934	1935	1934	1935	1934	1935	1934	1935	1934	1935	1934
Isabella County	81	100	27	35	21	31	33	34	1,974	4,119	.....	.....
Midland County	110	227	95	212	.....	.....	15	15	23,546	177,226	.....	.....
Montcalm County	164	20	95	5	23	4	46	11	127,658	776	.....	.....
Ogemaw County	66	45	59	28	.....	.....	7	17	7,711	2,486	.....	.....
Other Counties	181	91	23	18	55	12	103	61	1,046	686	.....	.....
State Production	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15,661,300	10,589,600
Total	602	483	299	298	99	47	204	138	161,935	185,293	15,661,300	10,589,600

Details for 1935 for all Areas of Michigan, Page 134.

New Mexico

Summary and Comparison, 1935-1934, for Principal Areas of New Mexico

COUNTY OR FIELD	Completions		Oil Wells		Gas Wells		Failures		Initial Oil Production (Barrels Daily)		Total Barrels Oil Production	
	1935	1934	1935	1934	1935	1934	1935	1934	1935	1934	1935	1934
Cooper Field, Lea County	62	23	58	21	2	1	2	1	139,542	91,975	1,802,850	.....
Eunice Field, Lea County	83	19	82	19	.....	.....	1	.....	137,822	28,890	2,238,050	.....
Hobbs Field, Lea County	32	14	31	14	.....	.....	1	.....	275,962	79,102	11,113,900	12,519,700
Monument Field, Lea County	26	.....	24	.....	.....	.....	2	.....	88,250	.....	127,800	.....
Rest of State	99	73	45	46	4	6	50	21	23,033	65,373	3,913,950	4,009,350
Totals	302	129	240	100	6	7	56	22	664,609	265,340	19,196,550	16,529,050

Details for 1935 for all Areas in New Mexico, Page 136.

Oklahoma

Summary and Comparison, 1935-1934, for Principal Areas of Oklahoma

COUNTY OR FIELD	Completions		Oil Wells		Gas Wells		Failures		Initial Oil Production (Barrels Daily)		Total Barrels Oil Production	
	1935	1934	1935	1934	1935	1934	1935	1934	1935	1934	1935	1934
Creek County	209	238	129	157	10	8	70	73	8,051	12,273	.....	.....
Oklahoma County	104	77	86	63	.....	1	18	13	476,657	285,922	.....	.....
Okmulgee County	140	138	63	65	18	19	59	54	1,401	3,153	.....	.....
Osage County	302	331	237	255	4	5	61	71	106,531	152,369	.....	.....
Pontotoc County	337	122	282	69	10	9	45	44	1,682,067	128,187	.....	.....
Seminole County	218	118	172	88	5	3	41	27	164,586	56,239	.....	.....
Oklahoma City Field	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	53,131,100	60,014,250
Fitts Field	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6,822,900	186,350
Rest of State	1,010	901	500	525	71	50	439	326	186,451	351,784	121,198,000	116,305,950
Total	2,320	1,925	1,469	1,222	118	95	733	608	2,625,744	989,927	181,152,000	176,506,550

Details for 1935 for all Areas of Oklahoma, Page 146.

Rocky Mountain States

Summary and Comparison, 1935-1934, by States

STATE	Completions		Oil Wells		Gas Wells		Failures		Initial Oil Production (Barrels Daily)		Total Barrels Oil Production	
	1935	1934	1935	1934	1935	1934	1935	1934	1935	1934	1935	1934
Wyoming	73	51	53	28	5	11	15	12	35,721	7,603	13,271,400	12,371,100
Montana	171	179	128	125	14	19	29	35	15,810	14,693	4,302,050	3,224,550
Colorado	11	23	10	4	.....	2	1	17	9,670	8,912	1,565,200	1,120,900
Utah	1	3	.....	.....	1	.....	.....	3	.....	.....	.....	.....
Total	256	256	191	157	20	32	45	67	61,201	31,208	19,138,650	16,716,550

Details for 1935 for all Rocky Mountain States, Page 136.

1935
RECORD OF PERFORMANCE

Out of eleven (11) producing fields brought in during the year 1935 in the

TEXAS-LOUISIANA GULF COAST AREA

*6——COUNT 'EM——SIX

were found as the direct result of SEISMOGRAPH REFLECTION SURVEYS made by the

INDEPENDENT EXPLORATION COMPANY

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CHENEYVILLE
TURTLE BAY
BIG LAKE
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EAST BERNARD

1935 Annual Field Statistical Review 1935

Texas

Summary and Comparison, 1935-1934, by Major Districts

DISTRICT	Completions		Oil Wells		Gas Wells		Failures		Initial Oil Production (Barrels Daily)		Total Barrels Oil Production	
	1935	1934	1935	1934	1935	1934	1935	1934	1935	1934	1935	1934
Texas Panhandle	670	463	549	375	73	64	48	24	360,702	155,505	21,611,550	20,356,000
North Texas	2,517	2,000	1,313	1,147	9	9	1,195	844	180,502	177,189	21,226,250	20,688,750
West Central Texas	418	419	166	178	26	26	226	215	7,354	7,295	9,317,300	9,783,800
West Texas	813	583	636	461	11	4	166	118	821,998	1,194,456	56,411,650	51,613,700
East Central Texas	239	196	124	98	14	17	101	81	304,787	411,345	17,807,650	17,359,900
East Texas Field	4,124	3,762	3,999	3,696	4	6	121	60	24,239,205	26,097,910	161,026,700	158,370,100
East Texas Outside East Texas Field	72	78	4	1	4	7	64	70	14,210	3,000	.....	.....
South Texas	1,950	1,387	1,158	709	86	97	706	581	483,202	227,060	22,022,150	18,906,750
Texas Gulf Coast	1,103	1,024	720	642	37	38	346	344	288,394	454,506	68,323,800	61,049,700
Total	11,906	9,912	8,669	7,307	264	268	2,973	2,337	26,700,354	28,728,266	377,747,050	358,128,700

Details for 1935 for all Areas in Texas, Page 138.

Southeastern States

Summary and Comparison, 1935-1934, by States

STATE	Completions		Oil Wells		Gas Wells		Failures		Initial Oil Production (Barrels Daily)		Total Barrels Oil Production	
	1935	1934	1935	1934	1935	1934	1935	1934	1935	1934	1935	1934
Alabama	3	2	.....	.....	.....	.....	3	2	.....	.....	.....	.....
Mississippi	17	39	.....	.....	5	9	12	30	.....	.....	.....	.....
Tennessee	.....	2	.....	.....	.....	.....	.....	2	.....	.....	.....	.....
Total	20	43	.....	.....	5	9	15	34	.....	.....	.....	.....

Details for 1935 for all Southeastern States, Page 134.

California Drilling and Production in 1935

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Oil Production	Total Bbls. Oil Prod. [A]
Belridge, North	10	10	....	....	27,350	2,720,929
Belridge, South	.....	.....	.....	.....	.....	920,719
Brea-Olinda (Fullerton)	4	2	....	2	147	3,636,201
Buttonwillow (Gas) [B]	5	....	3	2	.....	.....
Capitan	9	7	....	2	1,578	529,881
Coalinga	19	9	....	10	437	7,275,342
Coyote, East	2	2	....	....	160	994,213
Coyote, West	9	9	....	....	8,204	3,558,759
Delano (Gas) [B]	8	....	5	3	.....	.....
Domingues	33	33	....	....	26,219	7,913,492
Dudley Ridge (Gas)	5	....	2	3	.....	.....
Edison	68	51	....	17	12,470	988,572
Elk Hills	.....	.....	.....	.....	.....	3,228,586
Elwood	13	11	....	2	16,366	4,564,806
Fruitvale	20	18	....	2	4,500	1,850,571
Goleta (Gas)	2	....	2	....	.....	.....
Huntington Beach	26	18	....	8	9,561	15,185,343
Inglewood	22	21	....	1	19,164	4,476,677
Kern River	50	44	....	6	11,329	4,528,028
Kettleman Hills, Middle Dome	.....	.....	.....	.....	.....	31,298
Kettleman Hills, North Dome	38	34	....	4	148,196	27,569,892
Lawndale	1	1	....	....	250	65,731
Long Beach	147	122	....	25	32,991	26,487,238
Los Angeles-Salt Lake	.....	.....	.....	.....	.....	292,177
Lost Hills	5	1	....	4	112	1,758,915
McKittrick	6	4	....	2	609	1,402,962
Midway-Sunset	64	44	....	20	10,683	20,243,760
Montebello	14	11	....	3	5,542	2,280,079
Mountain View	77	68	....	9	156,008	9,239,871
Mount Poso	80	64	....	16	37,260	5,449,242
Newport Field	1	....	....	1	.....	101
Playa Del Rey	45	43	....	2	82,308	5,703,563
Potrero	.....	.....	.....	.....	.....	135,052
Richfield	3	.....	.....	3	.....	2,818,724
Rincon	1	1	....	....	420	676,456
Rosecrans	3	1	....	2	184	997,451
Round Mountain	18	16	....	2	14,715	2,318,469
San Miguelito	1	1	....	....	1,577	286,132
Santa Barbara	29	20	....	9	11,897	1,150,478
Santa Fe Springs	33	30	....	3	7,809	16,163,733
Santa Maria	10	4	....	6	717	1,536,498
Seal Beach	5	5	....	....	4,484	3,377,240
Semi-Tropic (Gas)	34	1	21	12	.....	.....
Summerland	3	....	....	3	.....	14,383
Torrance	3	2	....	1	153	2,509,553
Tracy (Gas)	2	....	2	....	.....	.....
Ventura Avenue	21	19	....	2	7,864	10,986,096
Ventura-Newhall	25	8	....	17	1,350	1,478,064
Watsonville	.....	.....	.....	.....	.....	21,865
Wheeler Ridge	1	1	....	....	75	152,810
Whittier Field	.....	.....	.....	.....	.....	379,568
Miscellaneous Drilling (Wildcats)	117	....	....	117	.....	.....
Totals 1935	1,092	736	35	321	662,689	207,899,520
Totals 1934	675	455	1	219	585,634	175,678,362

(*Continued next column*)

[A] American Petroleum Institute figures for first 11 months; estimates by THE OIL WEEKLY, with aid of American Petroleum Institute weekly reports, for December.

[B] Located approximately 12 miles west of Delano, in Kern County, about 30 miles northwest of Bakersfield.

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Other Stocks at Strategic Field Locations.

1935 Annual Field Statistical Review 1935

EASTERN STATES

Eastern States Production in 1935

DISTRICT	Bbls. Prod.
Pennsylvania Grade—	
Allegany	3,191,950
Bradford	13,151,150
Kane to Butler	2,690,950
Southwestern Pennsylvania	932,950
Southeastern Ohio	1,548,200
West Virginia	3,818,350
Pennsylvania Grade Total	25,333,550
Others, Eastern	13,015,250
Total 1935	38,348,800
Total 1934	36,624,950

Indiana Drilling in 1935

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Prod. (Bbls. daily)
Adams	1	1	....	....	10
Daviess	20	1	6	13	40
Decatur	2	....	2	....	.....
Dubois	7	....	4	3	.....
Gibson	23	4	9	10	147
Harrison	2	....	....	2	.....
Henry	1	....	1	....	.....
Jay	5	....	1	4	.....
Knox	27	4	18	5	80
Lawrence	3	....	....	3	.....
Marion	2	....	....	2	.....
Martin	2	....	....	2	.....
Perry	9	2	....	7	50
Pike	11	....	4	7	.....
Posey	5	....	1	4	.....
Rush	1	....	1	....	.....
Spencer	30	13	1	16	191
Sullivan	11	....	7	4	.....
Vanderbury	2	....	....	2	.....
Vigo	1	....	1	....	.....
Wabash	1	....	....	1	.....
Warrick	2	1	....	1	10
Washington	2	....	1	1	.....
Totals 1935	170	26	57	87	528
Totals 1934	179	63	36	80	2,250

Illinois Drilling in 1935

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Prod. (Bbls. daily)
Clark	4	2	....	2	4
Crawford	2	1	....	1	10
Monroe	1	....	....	1	.....
St. Clair	2	2	....	....	327
Totals 1935	9	5	....	4	341
Totals 1934	18	5	1	12	119

Northwestern Ohio Drilling in 1935

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Prod. (Bbls. daily)
Allen	16	12	1	3	189
Auglaise	1	....	....	1	.....
Hardin	9	1	8	....	8
Marion	1	....	....	1	.....
Ottawa	1	1	....	....	200
Sandusky	2	1	1	....	6
Seneca	9	1	6	2	5
Shelby	3	2	....	1	7
Van Wert	1	1	....	....	10
Wood	6	2	....	4	9
Wyandot	24	12	7	5	55
Totals 1935	73	33	23	17	489
Totals 1934	98	44	21	33	1,054

Ohio Drilling in 1935

Summary by Districts

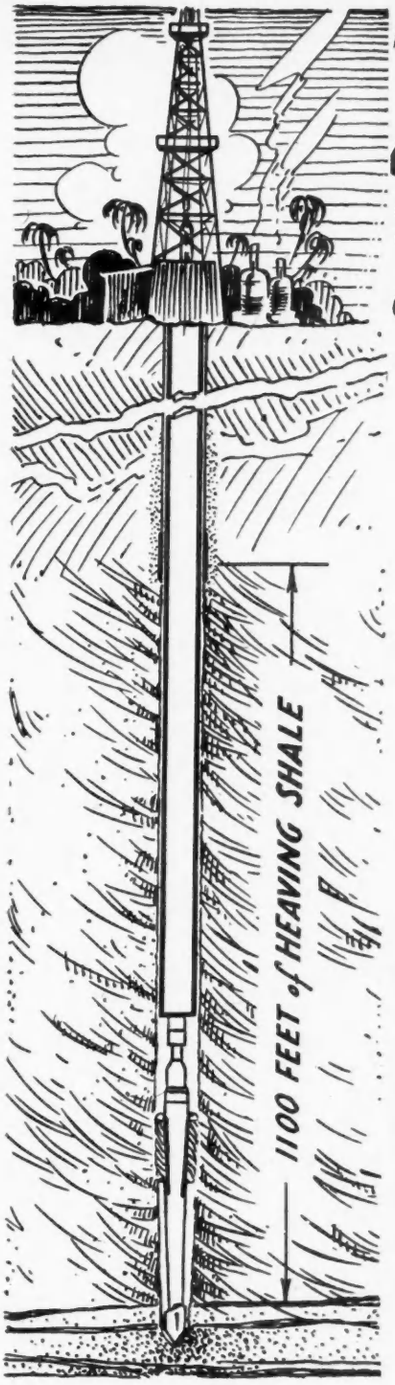
COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Prod. (Bbls. daily)
Southeastern Ohio	435	148	162	125	784
Central Ohio	1,007	243	473	291	5,885
Northwestern Ohio	73	33	23	17	489
Totals 1935	1,515	424	658	433	7,158
Totals 1934	1,075	327	478	270	6,031

Southeastern Ohio Drilling in 1935

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Prod. (Bbls. daily)
Belmont	4	....	4	....	.....
Coshocton	5	2	3	....	35
Crawford	1	....	1	....	.....
Hocking	1	1	....	....	50
Jackson	5	....	4	1	.....
Jefferson	3	1	....	2	3
Knox	3	....	1	2	.....
Logan	1	....	1	....	.....
Medina	1	1	....	....	6
Meigs	7	1	6	....	1
Monroe	99	28	38	33	81
Morgan	30	8	11	11	32
Newport	1	1	....	....	5
Noble	57	13	23	21	34
Perry	14	3	7	4	9
Scioto	2	....	2	....	.....
Seneca	3	....	3	....	.....
Vinton	4	....	3	1	.....
Washington	194	89	55	50	528
Totals 1935	435	148	162	125	784
Totals 1934	276	106	91	79	580

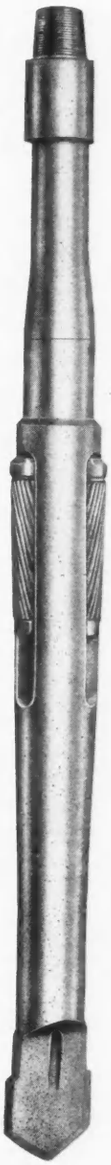
Central Ohio Drilling in 1935

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Prod. (Bbls. daily)
Ashland	17	2	7	8	50
Athens	96	7	57	32	36
Belmont	15	4	8	3	105
Calhoun	1	1	....	....	8
Columbiana	1	....	1	....	.....
Coshocton	25	16	7	2	780
Cuyahoga	6	....	3	3	.....
Deleware	1	....	....	1	.....
Fairfield	29	6	17	6	12
Gallia	1	....	....	1	.....
Guernsey	106	16	58	32	232
Hardin	2	2	....	....	3
Harrison	2	....	1	1	.....
Hocking	15	6	6	3	243
Holmes	17	1	11	5	25
Huron	1	....	....	1	.....
Jefferson	3	2	....	1	20
Knox	75	25	24	26	1,297
Lawrence	1	....	1	....	.....
Licking	55	39	6	10	1,347
Lorain	19	1	12	6	8
Marion	1	....	1	....	.....
Medina	148	67	21	60	729
Meigs	128	3	103	22	14
Muskingum	35	15	15	5	663
Perry	45	10	23	12	202
Pike	3	....	3	....	.....
Portage	3	....	1	2	.....
Putnam	2	2	....	....	25
Richland	7	1	2	4	10
Scioto	4	....	4	....	.....
Stark	49	1	44	4	3
Summit	10	....	6	4	.....
Trumbull	1	....	....	1	.....
Tuscarawas	24	1	17	6	30
Vinton	13	9	....	4	24
Washington	32	6	11	15	19
Wayne	9	....	2	7	.....
Wyandot	5	....	1	4	.....
Totals 1935	1,007	243	473	291	5,885
Totals 1934	701	177	366	158	4,397



Here's news!

1100 *feet of* HEAVING SHALE *drilled with a* GRANT TYPE "C" ROTARY UNDERREAMER



Grant Type "C" Rotary Underreamer

A major company, operating in a foreign field, had made 25 attempts to drill through a bed of fractured Miocene shale 1100 feet thick. Each venture was defeated because the shale, which contained high gas and water pressure, would close the hole almost as fast as it was drilled, sticking the drilling tools and freezing the casing that was being driven behind the bit.

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Following this system the 1100 feet of heaving shale was drilled and underreamed at one operation and the casing landed in solid formation below it without trouble. The condition that had caused the loss of 25 holes, years of labor and an immense amount of money was overcome economically and efficiently and a vast new field opened up for profitable exploitation.

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The Grant Type "C" Rotary Underreamer has a minimum number of parts, all securely locked against loss in the hole within the strong steel body. The cutters are positively expanded either by spring or hydraulic pressure, and always close safely back into the body when the underreamer is being withdrawn from the hole. A major oil company has used the Grant Rotary Underreamer for more than ten years without trouble of any kind. Here is a tool that you, too, can use safely and profitably in all of your drilling work, wherever you may be.

For complete information concerning Grant Type "C" Rotary Underreamers see Pages 529 to 531 of your new 1936 Composite Catalog, or send the coupon today.

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2042 East Vernon Avenue, Los Angeles, California.

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Company .....

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Address .....

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1935 Annual Field Statistical Review 1935

Pennsylvania Drilling in 1935

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Prod. (Bbls. daily)
Allegheny	11	3	4	4	13
Beaver	9	4	4	1	6
Butler	1	....	....	1	.....
Greene	32	3	21	8	11
Washington	56	14	27	15	151
Totals 1935	109	24	56	29	181
Totals 1934	262	194	42	26	2,189

West Virginia Drilling in 1935

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Prod. (Bbls. daily)
Boone	28	1	27	....	2
Brooks	1	....	....	1	.....
Cabell	43	2	41	....	31
Calhoun	52	11	31	10	159
Clay	7	1	5	1	35
Doddridge	8	3	2	3	14
Gilmer	21	7	11	3	76
Goose Creek	1	1	....	....	80
Guernsey	4	2	2	....	8
Hancock	8	4	2	2	18
Kanawha	48	4	32	12	55
Knox	1	....	....	1	.....
Lewis	1	....	....	1	.....
Lincoln	8	....	8	....	.....
Logan	2	....	2	....	.....
Loraine	1	....	....	1	.....
Marion	4	1	3	....	7
Marshall	6	1	3	2	10
Mason	3	3	....	....	5
Mingo	3	1	....	2	1
Monongalia	8	....	8	....	.....
Pleasants	18	11	2	5	81
Putnam	3	....	3	....	.....
Raleigh	3	....	3	....	.....
Ritchie	89	22	41	26	315
Roane	61	24	26	11	153
Rome	1	1	....	....	7
Tyler	5	3	....	2	29
Wayne	2	....	1	1	.....
Wetzel	7	4	2	1	36
Wirt	20	4	8	8	34
Wood	16	6	4	6	21
Totals 1935	483	117	267	99	1,177
Totals 1934	436	150	204	82	3,608

Kentucky Drilling in 1935

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Prod. (Bbls. daily)
Daviess	1	....	....	1	.....
Hancock	18	15	1	2	1,400
Henderson	1	1	....	....	9
McLean	6	4	....	2	333
Ohio	153	110	10	33	3,622
Totals 1935	179	130	11	38	5,364
Totals 1934	281	193	4	84	13,529

Michigan Production in 1935

FIELD OR DISTRICT	Bbls. Prod.
Western Michigan	111,400
Eastern Michigan	555,250
Montcalm (Including Vickery)	3,597,900
Mt. Pleasant Area	2,128,600
Porter-Yost	9,268,150
Total 1935	15,661,300
Total 1934	10,589,600

Michigan Drilling in 1935

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Prod. (Bbls. daily)
Alcona	6	....	....	6	.....
Allegan	3	....	....	3	.....
Arenac	2	....	....	2	.....
Bay	2	....	....	2	.....
Clare	3	....	....	3	.....
Clinton	3	....	....	3	.....
Genesee	1	....	....	1	.....
Gladwin	11	5	....	6	655
Gratiot	22	....	3	19	.....
Ionia	4	....	....	4	.....
Isabella	81	27	21	33	1,974
Jackson	1	....	....	1	.....
Kent	3	....	....	3	.....
La Peer	8	....	....	8	.....
Livingston	1	....	....	1	.....
Macomb	1	....	....	1	.....
Manistee	1	....	....	1	.....
Mecosta	63	....	52	11	.....
Midland	110	95	....	15	23,546
Monroe	1	....	....	1	.....
Montcalm	164	95	23	46	127,658
Muskegon	3	....	....	3	.....
Newaygo	4	....	....	4	.....
Oakland	1	....	....	1	.....
Oceana	2	....	....	2	.....
Ogemaw	66	59	....	7	7,711
Osceola	3	....	....	3	.....
Roscommon	2	....	....	2	.....
Saginaw	20	18	....	2	391
Shiwassee	2	....	....	2	.....
St. Clair	2	....	....	2	.....
Tuscola	1	....	....	1	.....
Wayne	3	....	....	3	.....
Wexford	2	....	....	2	.....
Totals 1935	602	299	99	204	161,935
Totals 1934	483	298	47	138	185,293

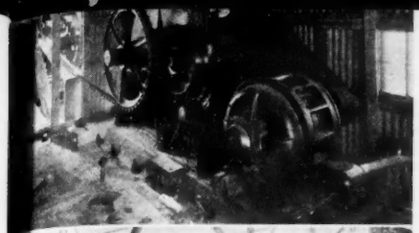
SOUTHEASTERN STATES

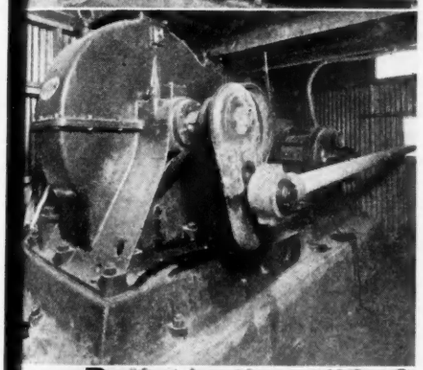
Alabama Drilling in 1935

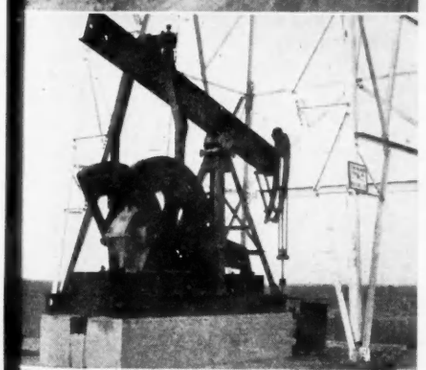
COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Prod. (Bbls. daily)
Baldwin	2	....	....	2	.....
Conecuh	1	....	....	1	.....
Totals 1935	3	....	....	3	.....
Totals 1934	2	....	....	2	.....

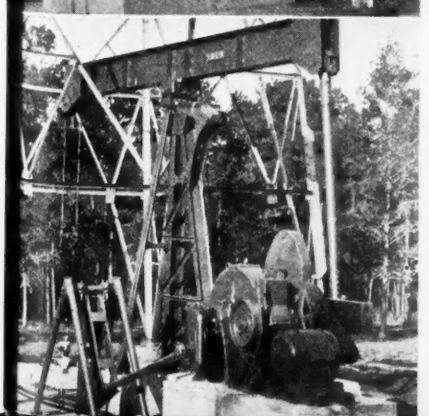
Mississippi Drilling in 1935

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Prod. (Bbls. daily)
Forrest	1	....	....	1	.....
George	2	....	....	2	.....
Grenada	1	....	....	1	.....
Hinds	5	....	3	2	.....
Isaquena	1	....	....	1	.....
Jones	1	....	....	1	.....
Rankin	3	....	2	1	.....
Simpson	1	....	....	1	.....
Stone	2	....	....	2	.....
Totals 1935	17	....	5	12	.....
Totals 1934	39	....	9	30	.....









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1935 Annual Field Statistical Review 1935

ROCKY MOUNTAIN STATES

Montana Drilling and Production in 1935

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Oil Production	Total Bbls. Oil Prod.
Production:						
Cat Creek Field	....	....	....	....	.....	282,550
Cut Bank Field	....	....	....	....	.....	2,092,650
Pondera Field	....	....	....	....	.....	421,100
Sunburst Field	....	....	....	....	.....	1,352,100
Other Fields	....	....	....	....	.....	153,650
Drilling:						
Big Horn County	3	....	2	1	.....	.....
Carbon County	1	....	1	....	.....	.....
Cascade County	1	....	....	1	.....	.....
Fallon County	1	....	1	....	.....	.....
Glacier County, Cut Bank Field	116	95	6	15	12,606	.....
Hill County	1	....	1	....	.....	.....
Liberty County	3	2	....	1	1,720	.....
Petroleum County	1	....	....	1	.....	.....
Phillips County	1	....	1	....	.....	.....
Pondera Field	3	2	....	1	102	.....
Stillwater County, Dean Dome	1	....	....	1	.....	.....
Rosebud County	1	....	....	1	.....	.....
Toole County	38	29	2	7	1,382	.....
Totals 1935	171	128	14	29	15,810	4,302,050
Totals 1934	179	125	19	35	14,693	3,224,550

Wyoming Drilling and Production in 1935

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Oil Production	Total Bbls. Oil Prod.
Production:						
Big Muddy Field	....	....	....	....	.....	597,450
Elk Basin Field	....	....	....	....	.....	104,200
Grass Creek Field	....	....	....	....	.....	702,750
La Barge Field	1	1	....	....	30	455,400
Lance Creek Field	1	1	....	....	2,640	616,350
Lost Soldier Field	....	....	....	....	.....	541,100
Oregon Basin Field	....	....	....	....	.....	1,078,850
Rock River Field	....	....	....	....	.....	559,300
Salt Creek Field	....	....	....	....	.....	6,297,200
Other Fields	....	....	....	....	.....	2,318,800
Drilling:						
Albany County	4	2	....	2	1,000	.....
Big Horn County	8	6	....	2	1,645	.....
Carbon County	8	5	1	2	7,087	.....
Converse County	3	....	1	2	.....	.....
Hot Springs County	4	4	....	....	755	.....
Natrona County	1	1	....	....	40	.....
Niobrara County	9	8	1	....	20,109	.....
Park County, Frannie Field	1	1	....	....	1,200	.....
Park County, Unclassified	2	1	1	....	300	.....
Sublette County	4	4	....	....	180	.....
Sweetwater County	2	1	1	....	12	.....
Washakie County	2	1	....	1	250	.....
Weston County, Unclassified	4	3	....	1	53	.....
Weston County, Osage Field	19	14	....	5	420	.....
Totals 1935	73	53	5	15	35,721	13,271,400
Totals 1934	51	28	11	12	7,603	12,371,100

Utah Drilling and Production in 1935

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Oil Production	Total Bbls. Oil Prod.
Dagget County, Clay Basin Field	1	....	1	....	.....	.....
Totals 1935	1	....	1	....	.....	.....
Totals 1934	3	....	....	3	.....	.....

Colorado Drilling and Production in 1935

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Oil Production	Total Bbls. Oil Prod.
Production:						
Florence Field	....	....	....	....	.....	74,250
Ft. Collins and Wellington Fields	....	....	....	....	.....	147,600
Iles Dome	....	....	....	....	.....	742,250
Moffat-Craig Field	....	....	....	....	.....	159,200
Other Fields	....	....	....	....	.....	441,900
Drilling:						
Archuleta County	1	1	....	....	25	.....
Moffat County, Hiawatha Dome	1	1	....	....	140	.....
Moffat County, Iles Dome	5	5	....	....	4,055	.....
Moffat County, Unclassified	4	3	....	1	5,450	.....
Totals 1935	11	10	....	1	9,670	1,565,200
Totals 1934	23	4	2	17	8,912	1,120,900

New Mexico Drilling in 1935

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Prod. (Bbls. daily)
Bernalillo County	1	....	....	1	.....
Chaves County	6	....	1	5	.....
Dona Ana County	1	....	....	1	.....
Eddy County, Artesia Field	3	1	....	2	15
Eddy County, Unclassified	11	2	....	9	115
Guadalupe County	2	....	....	2	.....
Lea County, Cooper Field	62	58	2	2	139,542
Lea County, Eunice Field	83	82	....	1	137,822
Lea County, Hobbs Field	32	31	....	1	275,962
Lea County, Jal Field	7	6	1	....	1,459
Lea County, Lea-Lynch Field	1	....	....	1	.....
Lea County, Monument Field	26	24	....	2	88,250
Lea County, Maljamar Field	3	3	....	....	340
Lea County, North Jal Field	10	8	1	1	7,625
Lea County, North Lea Field	1	....	....	1	.....
Lea County, South Jal Field	2	2	....	....	3,700
Lea County, Wildcats	20	4	....	16	1,581
McKinley County	1	....	....	1	.....
Otero County	1	....	....	1	.....
San Juan County	10	6	....	4	698
San Miguel County	1	....	....	1	.....
Santa Fe County	3	....	....	3	.....
Torrance County	15	13	1	1	7,500
Totals 1935	302	240	6	56	664,609
Totals 1934	129	100	7	22	265,340

New Mexico Production in 1935

COUNTY OR FIELD	Total Bbls. Oil Prod.
Hobbs Field	11,113,900
Rest of Lea County [A]	1,525,200
Cooper Field [B]	1,802,850
Eunice Field [B]	2,238,050
Jal Field [B]	994,050
Lea County [B]	329,550
Maljamar Field [B]	431,400
Monument Field [C]	127,800
Artesia Field	40,800
Eddy County, Artesia Field	185,000
Balance of Eddy, Outside of Artesia	35,400
Hogback Field [D]	21,650
Rattlesnake Field [D]	79,000
San Jaun County	261,950
Table Mesa Field [D]	9,950
Totals 1935	19,196,550
Totals 1934	16,529,050

[A] Beginning April 27, classified as: Cooper, Eunice, Jal, Lea, Maljamar.
[B] Prior to April 27, 1935, shown under "Rest of Lea County."
[C] Production included with "others" prior to August 31, 1935.
[D] Beginning April 27, 1935, shown under "San Juan County."
[E] Prior to April 27, 1935, carried under separate classifications: Hogback, Rattlesnake and Table Mesa.

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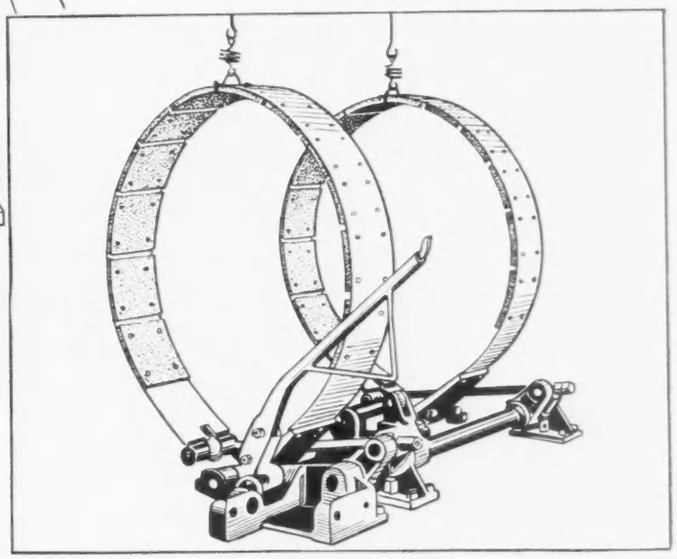

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1935 Annual Field Statistical Review 1935

TEXAS

East Texas Drilling and Production in 1935

Summary

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Oil Production	Total Bbls. Oil Prod.
East Texas Field	4,124	3,999	4	121	24,239,205	161,026,700
East Texas outside East Texas Field	72	4	4	64	14,210	.....
Totals, 1935	4,196	4,003	8	185	24,253,415	161,026,700
Totals, 1934	3,840	3,697	13	130	26,100,910	158,370,100

East Texas Field

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Oil Production	Total Bbls. Oil Prod.
Joiner Area	1,554	1,489	3	62	7,540,839	49,106,850
Kilgore Area	1,173	1,152	1	20	6,911,813	49,844,700
Longview Area	1,397	1,358	....	39	9,786,553	62,075,150
Totals, 1935	4,124	3,999	4	121	24,239,205	161,026,700
Totals, 1934	3,762	3,696	6	60	26,097,910	158,370,100

East Texas Outside East Texas Field

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Oil Production	Total Bbls. Oil Prod.
Bowie County	1	....	....	1	.....	.....
Cass County (Including part of Rodessa Field)	5	1	1	3	13,000	.....
Cherokee County Wildcats	13	2	....	11	1,200	.....
Harrison County	6	1	2	3	10	.....
Marion County	2	....	....	2	.....	.....
Morris County	2	....	....	2	.....	.....
Panola County, Bethany Field	5	....	1	4	.....	.....
Panola County, Tacoma Field	2	....	....	2	.....	.....
Red River County	6	....	....	6	.....	.....
Rusk County Wildcats	4	....	....	4	.....	.....
Sabine County	1	....	....	1	.....	.....
San Augustine County	1	....	....	1	.....	.....
Shelby County	6	....	....	6	.....	.....
Smith County Wildcats	9	....	....	9	.....	.....
Upshur County Wildcats	9	....	....	9	.....	.....
Totals, 1935	72	4	4	64	14,210	.....
Totals, 1934	78	1	7	70	3,000	.....

Texas Panhandle Drilling and Production in 1935

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Oil Production	Total Bbls. Oil Prod.
Carson County	49	33	15	1	11,226	1,823,700
Childress County	3	....	....	3	.....	.....
Collingsworth County	4	....	1	3	.....	.....
Dallam County	1	....	....	1	.....	.....
Gray County	279	256	9	14	105,679	11,196,750
Hartley County	1	....	....	1	.....	.....
Hutchinson County	131	119	6	6	43,431	4,738,900
Moore County	29	8	20	1	5,305	.....
Potter County	3	1	2	....	44	.....
Randall County	1	....	....	1	.....	.....
Wheeler County	169	132	20	17	195,017	3,401,250
Moore County	.....	.....	.....	.....	.....	450,950
Totals 1935	670	549	73	48	360,702	21,611,550
Totals 1934	463	375	64	24	155,505	20,356,000

East Central Texas Drilling and Production in 1935

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Oil Production	Total Bbls. Oil Prod.
Anderson County	13	6	3	4	15,100	.....
Boggy Creek Field [A]	.....	.....	.....	.....	.....	139,150
Camp Hill Field	19	10	1	8	20,000	.....
Cayuga Field	43	37	5	1	84,430	1,325,600
Corsicana-Powell Field	.....	.....	.....	.....	.....	839,200
Currie Field [A]	.....	.....	.....	.....	.....	29,100
Ellis County	1	....	....	1	.....	.....
Falls County	2	....	....	2	.....	.....
Freestone County	8	....	1	7	.....	.....
Gregg County	2	....	....	2	.....	.....
Henderson County	10	1	1	8	15	.....
Hill County	2	....	....	2	.....	.....
Hopkins County	1	....	....	1	.....	.....
Houston County	2	....	....	2	.....	.....
Hunt County	9	....	....	9	.....	.....
Lamar County	1	....	....	1	.....	.....
Leon County	3	1	....	2	50	.....
Limestone County	11	....	....	11	.....	.....
Long Lake Field	6	3	3	....	4,750	.....
McLennan County	1	....	....	1	.....	.....
Mertil Field	.....	.....	.....	.....	.....	804,800
Navarro County	8	....	....	8	.....	.....
Rains County	1	....	....	1	.....	.....
Richland-Tacoma Field [A]	.....	.....	.....	.....	.....	12,150
Robertson County	3	....	....	3	.....	.....
Van Field	76	66	....	10	180,442	14,226,750
Van Zandt County Wildcats	9	....	....	9	.....	.....
Wood County	8	....	....	8	.....	.....
Wortham Field [A]	.....	.....	.....	.....	.....	24,300
Others	.....	.....	.....	.....	.....	406,600
Totals, 1935	239	124	14	101	304,787	17,807,650
Totals, 1934	196	98	17	81	411,345	17,359,900

[A] Production included with "Others" after August 31, 1935.

North Texas Drilling and Production in 1935

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Oil Production	Total Bbls. Oil Prod.
Archer County	771	466	....	305	47,809	6,776,400
Baylor County	121	97	....	24	59,739	.....
Burkburnett	.....	.....	.....	.....	.....	1,969,850
Clay County	33	7	1	25	98	.....
Collins County	2	....	....	2	.....	.....
Cooke County (Production is for Cooke-Montague Counties)	183	117	....	66	15,818	.....
Cottle County	1	....	....	1	.....	.....
Denton County	6	....	....	6	.....	.....
Electra Field	.....	.....	.....	.....	.....	2,863,500
Foard County	3	1	....	2	182	.....
Grayson County	2	....	....	2	.....	.....
Hardeman	2	....	....	2	.....	.....
Haskell County	3	....	....	3	.....	.....
Iowa Park and K.M.A. Field	.....	.....	.....	.....	.....	855,550
Jack County [A]	89	26	1	62	558	.....
King County	1	....	....	1	.....	.....
Knox County	1	....	....	1	.....	.....
Montague County	90	58	1	31	8,192	.....
Montague-Cooke Production	5	5	....	....	4,525	2,774,000
Throckmorton County	27	3	2	22	74	.....
Wichita County	309	153	1	155	8,121	.....
Wilbarger	63	36	1	26	4,788	2,970,650
Young County	381	163	1	217	13,257	.....
North Young (Shallow Production)	.....	.....	.....	.....	.....	2,129,450
Wise County	2	....	....	2	.....	.....
Young County	422	181	1	240	17,341	.....
Others	.....	.....	.....	.....	.....	986,850
Totals, 1935	2,517	1,313	9	1,195	180,502	21,226,250
Totals, 1934	2,000	1,147	9	844	177,189	20,688,750

[A] Listed for production under West Central Texas.

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Lusk
Medicine Bow
Rawlins
Thermopolis
Worland

1935 Annual Field Statistical Review 1935

South Texas Drilling and Production in 1935

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Oil Production	Total Bbls. Oil Prod.
Production:						
Chapman-Abbott Field [A]	....	....	....	....	....	100,850
Dale Field [A]	....	....	....	....	....	116,200
Darst Creek Field	....	....	....	....	....	3,276,500
Duval County	....	....	....	....	....	10,105,250
Balance Laredo District:	....	....	....	....	....	2,576,800
Luling Field	....	....	....	....	....	2,005,150
Lytton Springs Field [A]	....	....	....	....	....	96,850
Salt Flat Field	....	....	....	....	....	1,506,100
Sam Fordyce Field	....	....	....	....	....	936,600
Somerset Field	....	....	....	....	....	265,700
Others	....	....	....	....	....	1,036,150
Drilling:						
Atascosa County	2	....	....	2	....	....
Bandera County	2	....	....	2	....	....
Bastrop County	25	4	....	21	400	....
Bee County	249	183	5	61	79,558	....
Bexar County	69	39	1	29	185	....
Blanco County	1	....	....	1	....	....
Brooks County	3	....	....	3	....	....
Caldwell County	28	13	....	15	939	....
Calhoun County	23	11	1	11	7,312	....
De Witt County	2	....	....	2	....	....
Dimmit County	2	....	....	2	....	....
Duval County	431	341	17	73	146,390	....
Edwards County	4	....	....	4	....	....
Falls County	2	....	....	2	....	....
Frio County	11	6	....	5	4,505	....
Gillespie County	1	....	....	1	....	....
Goliad County	17	11	....	6	3,871	....
Gonzales County	4	....	....	4	....	....
Guadalupe County	26	10	....	16	4,011	....
Hidalgo County	123	85	3	35	35,245	....
Jackson County	5	1	....	4	950	....
Jim Hogg County	17	....	....	17	....	....
Jim Wells County	18	....	4	14	....	....
Karnes County	28	3	8	17	400	....
Kendall County	3	....	....	3	....	....
Kerr County	2	....	....	2	....	....
Kleberg County	3	2	....	1	70	....
La Salle County	3	....	....	3	....	....
Lavaca County	5	....	....	5	....	....
Lee County	5	....	....	5	....	....
Live Oak County	53	14	3	36	5,892	....
Maverick County	2	....	....	2	....	....
McMullen County	79	26	4	49	2,404	....
Medina County	9	....	....	9	....	....
Milam County	13	5	1	7	1,368	....
Nueces County	65	53	5	7	28,177	....
Refugio County	88	70	4	14	51,857	....
San Patricio County	62	50	1	11	22,137	....
Starr County	86	28	1	57	12,407	....
Travis County	14	1	....	13	40	....
Victoria County	54	36	8	10	12,120	....
Webb County	172	123	7	42	59,692	....
Willacy County	3	....	....	3	....	....
Williamson County	57	14	....	43	1,222	....
Wilson County	1	....	....	1	....	....
Zapata County	76	29	13	34	2,050	....
Zavalla County	2	....	....	2	....	....
Totals, 1935	1,950	1,158	86	706	483,202	22,022,150
Totals, 1934	1,387	709	97	581	227,060	18,906,750

[A] Production included with "Others" after August 31, 1935.

Texas Gulf Coast Drilling and Production in 1935

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Oil Production	Total Bbls. Oil Prod.
Anahuac Field [A]	36	33	....	3	21,111	323,950
Angelina County	17	2	....	15	17	....
Arriola Field	10	6	2	2	2,533	398,700
Austin County	9	....	....	9	....	....
Barbers Hill Field	45	43	....	2	16,181	6,790,650
Batson Field	15	8	....	7	6,109	617,050
Big Creek Field	6	4	....	2	1,244	363,200

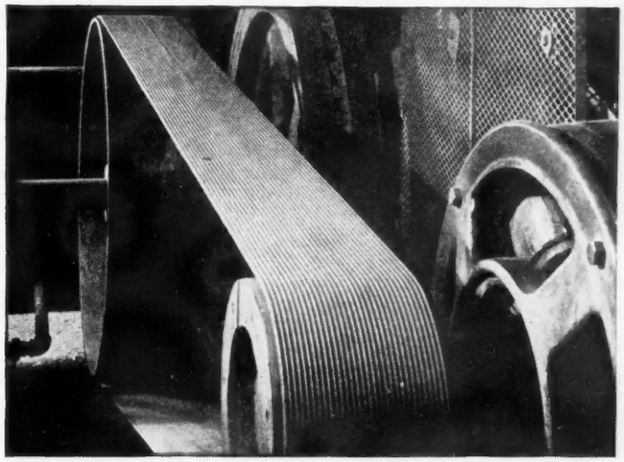
(Continued next column)

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Oil Production	Total Bbls. Oil Prod.
Big Hill Field, Jefferson County	2	....	....	2	....	....
Blue Ridge Field	9	7	....	2	980	349,200
Boling Field [B]	17	11	....	6	1,047	105,250
Brazoria County Wildcats	9	1	....	8	50	....
Brazos County	2	....	....	2	....	....
Bryan Mound Field	1	....	....	1	....	....
Burleson County	1	....	....	1	....	....
Chambers County	7	1	....	6	264	....
Clay Creek Field	15	8	1	6	1,565	358,350
Cleveland Field	10	6	....	4	1,256	....
Colorado County	4	....	....	4	....	....
Conroe Field	70	59	1	10	35,547	15,493,600
Damon Mound Field [B]	7	2	1	4	55	144,200
Danbury Field	3	....	....	3	....	....
Dickinson Field [C]	23	18	1	4	7,881	274,750
Esperson Field	9	4	1	4	1,324	453,500
Eureka Field	3	....	....	3	....	....
Fannett Field [B]	8	8	....	....	3,365	138,750
Fayette County	1	....	....	1	....	....
Fort Bend County	5	....	....	5	....	....
Friendswood-Hastings Field [D]	....	....	....	....	....	482,350
Galveston County	2	....	....	2	....	....
Goose Creek Field	3	1	....	2	100	1,055,150
Greta Field [E]	....	....	....	....	....	4,704,800
Grimes County	8	....	....	8	....	....
Hankamar Field	23	16	....	7	5,955	575,450
Hardin County	2	....	....	2	....	....
Harris County	14	....	....	14	....	....
Hastings Field	50	46	1	3	18,573	....
High Island Field	26	23	....	3	9,452	2,542,800
Houston County	7	....	....	7	....	....
Hull Field	36	29	1	6	5,893	2,307,600
Humble Field	24	16	....	8	2,971	1,204,600
Jasper County	2	....	....	2	....	....
Jefferson County	6	....	....	6	....	....
Kittrell Field	12	8	....	4	3,609	....
Liberty County	7	1	....	6	600	....
Livingston Field	45	40	1	4	10,748	996,400
Long Point Field	1	....	....	1	....	....
Lost Lake Field	1	1	....	....	60	....
Louise Field	12	11	....	1	2,280	....
Madison County	3	....	....	3	....	....
Manvel Field	75	56	5	14	16,307	2,431,000
Markham Field	5	1	....	4	5	485,950
Matagorda County	1	1	....	....	15	....
Montgomery County	13	....	....	13	....	....
Moss Bluff Field	2	....	....	2	....	....
Mykawa Field	37	25	....	12	10,820	721,150
North Dayton Field [F]	1	....	....	1	....	40,650
Old Ocean Field	1	1	....	....	500	....
Orange County	5	....	....	5	....	....
Orange Field	1	1	....	....	15	263,200
Orchard Field [B]	4	2	....	2	225	171,150
Pettus Field [G]	....	....	....	....	....	2,048,700
Pickett Ridge Field	4	2	....	2	1,020	....
Pierce Junction Field	30	19	....	11	6,126	1,187,400
Pledger Field	5	....	4	1	....	....
Polk County	8	....	....	8	....	....
Port Neches Field	10	6	....	4	1,931	601,200
Raccoon Bend Field	48	43	1	4	31,939	1,698,100
Refugio Field [H]	....	....	....	....	....	1,431,200
San Augustine County	2	....	....	2	....	....
San Felipe Dome	4	....	....	4	....	....
San Jacinto County	4	....	....	4	....	....
Saratoga Field [B]	2	....	....	2	....	194,850
Saxet Field [I]	....	....	....	....	....	1,049,000
Sheppards Mott Dome	2	....	....	2	....	....
Sour Lake Field	6	4	....	2	378	566,200
South Houston Field	18	12	1	5	3,236	....
South Liberty Field [B]	11	11	....	....	523	121,950
Spindletop Field	10	9	....	1	1,333	948,750
Splendora Field	2	....	....	2	....	....
Stratton Ridge Field	2	....	....	2	....	....
Sugar Land Field	1	1	....	....	311	2,121,700
Thompsons Field (Clear Lake)	26	23	....	3	18,309	4,111,800
Tomball Field	105	85	16	4	32,438	1,913,250
Trinity County	9	....	....	9	....	....
Turtle Bay Field	1	1	....	....	648	....
Van Vleck Field	4	3	....	1	1,180	....
Walker County	2	....	....	2	....	....
Waller County	3	....	....	3	....	....
Washington County	3	....	....	3	....	....
West Columbia	3	....	....	3	....	884,950
Wharton County	5	1	....	4	365	....
Others	....	....	....	....	....	5,651,350
Totals, 1935	1,103	720	37	346	288,394	68,323,800
Totals, 1934	1,024	642	38	344	454,506	61,049,700

[A] Production shown with "Others" prior to June 1, 1935.
[B] Production shown with "Others" after August 31, 1935.
[C] Production included with "Others" prior to March 23, 1935.
[D] First production recorded week ending August 10, 1935: previously included with "Others."
[E] Completions shown under Refugio County, South Texas.
[F] Production shown with "Others" in latter half of 1935.
[G] Completions shown under Bee County, South Texas.
[H] Completions shown under Refugio County, South Texas.
[I] Completions shown under Nueces County, South Texas.

KABLE KORD

BEATS EXPENSIVE BELTING IN SCIENTIFIC TESTS



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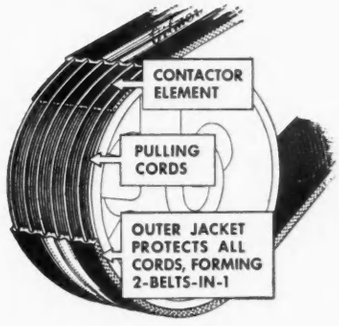

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West Texas Drilling and Production in 1935

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Oil Production	Total Bbls. Oil Prod.
Andrews County [A]	18	11	....	7	6,283	284,100
Andrews County, Means Field	5	4	1	....	2,480	.....
Brewster County	3	....	....	3	.....	.....
Cochran County	3	....	....	3	.....	.....
Coke County	2	....	....	2	.....	.....
Crane County	19	15	....	4	23,613	.....
Crane-Upton Counties, Production	.....	.....	.....	.....	.....	6,177,250
Crockett County	6	3	....	3	1,203	328,900
Culberson County	1	....	....	1	.....	.....
Dawson County	1	....	....	1	.....	.....
Ector County	81	69	....	12	33,979	3,574,300
El Paso County	1	....	....	1	.....	.....
Fisher County [A]	28	25	....	3	12,173	.....
Garza County	3	1	....	2	25	.....
Glasscock County	19	13	....	6	9,350	.....
Howard County	86	81	....	5	36,483	.....
Howard-Glasscock Counties, Production	1	1	....	....	1,105	6,906,700
Iatan-East Howard Field	.....	.....	.....	.....	.....	494,300
Irion County	2	1	....	1	50	.....
Jones County [B]	48	21	....	27	5,787	.....
Jones-Fisher Counties, Production [C]	.....	.....	.....	.....	.....	2,594,250
Loving County	5	3	....	2	1,213	.....
Lynn County	1	....	....	1	.....	.....
McCulloch County	12	....	2	10	.....	.....
Mitchell County, Iatan Field	2	1	....	1	40	.....
Mitchell County, Unclassified	2	1	....	1	10	.....
Mitchell-Scurry Counties, Production	.....	.....	.....	.....	.....	343,200
Pecos County, Taylor-Link Field	23	17	1	5	87,028	.....
Pecos County, Yates Field	25	21	....	4	436,290	.....
Pecos County, Unclassified	32	25	....	7	2,477	.....
Reagan County Production	.....	.....	.....	.....	.....	3,638,900
Reagan County, Big Lake Field	6	2	....	4	1,075	.....
Reaves County	2	....	....	2	.....	.....
Runnels County	12	6	....	6	451	.....
Schleicher County	3	....	1	2	.....	.....
Scurry County	5	1	....	4	12	.....
Sterling County	1	....	....	1	.....	.....
Stonewall County	2	....	....	2	.....	.....
Sutton County	2	....	....	2	.....	.....
Taylor County	4	2	....	2	13	.....
Tom Green County	3	....	....	3	.....	.....
Upton County	73	68	....	5	35,707	.....
Ward County	176	163	2	11	86,075	5,996,900
Winkler County	56	46	3	7	16,676	7,790,300
Winkler County, Keystone Field	1	1	....	....	63	.....
Winkler County, Sayre Field	36	32	1	3	22,231	.....
Winkler County, Scarborough Field	2	2	....	....	106	.....
Yates Field [D]	.....	.....	.....	.....	.....	15,269,950
Balance of Pecos County	.....	.....	.....	.....	.....	1,158,600
Others	.....	.....	.....	.....	.....	1,854,000
Totals, 1935	813	636	11	166	821,998	56,411,650
Totals, 1934	583	461	4	118	1,194,456	51,613,700

[A] Production shown with "Others" prior to September 1, 1935.
[B] Production listed under North Texas.
[C] Completions listed under West Texas.
[D] Completions listed as "Pecos County, Yates Field."

West Central Texas Drilling and Production in 1935

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Oil Production	Total Bbls. Oil Prod.
Brown County	48	13	4	31	224	711,150
Burnet County	1	....	....	1	.....	.....
Callahan County	46	15	3	28	471	582,250
Coleman County	33	8	4	21	540	497,850
Comanche County	6	2	1	3	27	.....
Eastland County	28	14	3	11	587	.....
Eastland-Desdemona Field	.....	.....	.....	.....	.....	1,149,050
Erath County	1	....	....	1	.....	.....
Jack County [A]	.....	.....	.....	.....	.....	491,000
Lampasas County	1	....	....	1	.....	.....
McCulloch County	2	1	....	1	20	.....
Mills County	1	....	....	1	.....	.....
Palo Pinto County [B]	17	7	5	5	118	98,350
Parker County	3	....	....	3	.....	.....
San Saba County	1	....	....	1	.....	.....
Shackelford County	221	105	6	110	5,362	2,051,050
Stephens County	9	1	....	8	5	1,848,850
Throckmorton County [B]	.....	.....	.....	.....	.....	121,400
South Young County Production	.....	.....	.....	.....	.....	1,398,750
Others	.....	.....	.....	.....	.....	367,600
Totals, 1935	418	166	26	226	7,354	9,317,300
Totals, 1934	419	178	26	215	7,295	9,783,800

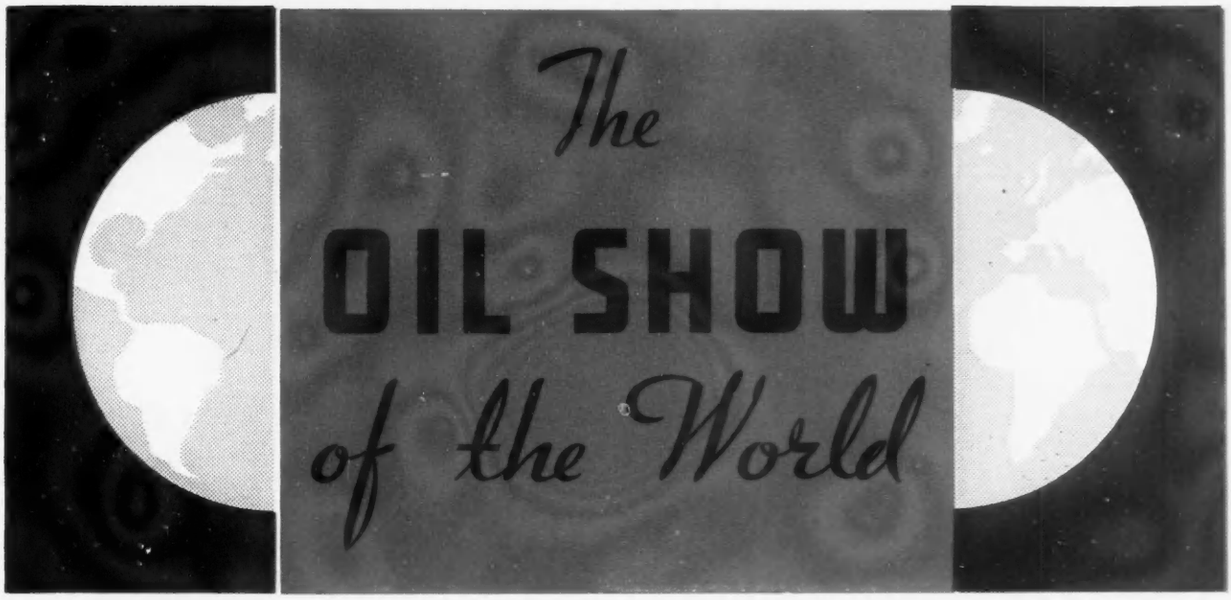
[A] Completions listed under North Texas.
[B] Production shown under "Others" after August 31, 1935.

OTHER STATES

Arkansas Drilling and Production in 1935

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Oil Production	Total Bbls. Oil Prod.
Production:						
Champagnolle Field	.....	.....	.....	.....	.....	887,050
El Dorado Field	.....	.....	.....	.....	.....	811,550
Lisbon Field [A]	.....	.....	.....	.....	.....	75,250
Nevada Field [A]	.....	.....	.....	.....	.....	216,850
Smackover Field (light)	.....	.....	.....	.....	.....	826,250
Smackover Field (heavy)	.....	.....	.....	.....	.....	6,609,900
Stephens Field [A]	.....	.....	.....	.....	.....	142,650
Others	.....	.....	.....	.....	.....	1,571,300
Drilling:						
Arkansas County	2	....	....	2	.....	.....
Ashley County	4	....	....	4	.....	.....
Calhoun County	2	....	....	2	.....	.....
Columbia County, Stephens Field	2	1	....	1	15	.....
Franklin County	1	....	1	....	.....	.....
Grant County	1	....	....	1	.....	.....
Hempstead County	2	....	....	2	.....	.....
Lafayette County	5	1	....	4	30	.....
Little River County	1	....	....	1	.....	.....
Lonoke County	1	....	....	1	.....	.....
Miller County	21	7	....	14	1,460	.....
Nevada County, Stephens Field	1	1	....	....	10	.....
Ouachita County, Barham Field	1	....	....	1	.....	.....
Ouachita County, Camden Area	10	1	....	9	100	.....
Ouachita County, Smackover Field	2	1	....	1	10	.....
Ouachita County, Unclassified	3	....	....	3	.....	.....
Poinsett County	1	....	....	1	.....	.....
Sevier County	3	....	....	3	.....	.....
Union County	9	3	....	6	107	.....
Union County, El Dorado Field	2	1	....	1	20	.....
Union County, Hibank Field	2	2	....	....	24	.....
Union County, Rainbow City Field	35	20	2	13	5,530	.....
Union County, Smackover Field	1	....	....	1	.....	.....
Union County, Urania Field	11	7	1	3	1,140	.....
Totals 1935	123	45	4	74	8,446	11,140,800
Totals 1934	93	35	1	57	8,645	11,412,100

[A] Production included with "others" after August 31, 1935.



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1935 Annual Field Statistical Review 1935

North Louisiana Drilling and Production in 1935

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Oil Production	Total Bbls. Oil Prod.
Production:						
Caddo (Light)	....	....	....	....	.....	1,803,550
Caddo (Heavy)	....	....	....	....	.....	759,650
Converse Field	....	....	....	....	.....	423,950
Cotton Valley [A]	....	....	....	....	.....	107,600
De Soto and Red River	....	....	....	....	.....	514,600
Haynesville Field	....	....	....	....	.....	1,272,000
Holly Field [A]	....	....	....	....	.....	37,400
Homer Field	....	....	....	....	.....	973,050
Rodessa Field	....	....	....	....	.....	1,296,700
Sarepta-Carterville Field	....	....	....	....	.....	191,500
Urania Field	....	....	....	....	.....	1,086,150
Zwolle	....	....	....	....	.....	630,100
Others	....	....	....	....	.....	486,950
Drilling:						
Bienville Parish	4	....	....	4	.....	.....
Bossier Parish, Bellevue Field	7	5	....	2	61	.....
Bossier Parish, Belcher Area	1	....	....	1	.....	.....
Bossier Parish, Benton Field	2	....	....	2	.....	.....
Bossier Parish, Plain Dealing Area	2	....	1	1	.....	.....
Bossier Parish, Sligo Field	7	....	7	....	.....	.....
Bossier Parish, Unclassified	6	....	....	6	.....	.....
Caddo Parish, Blanchard Field	13	....	6	7	.....	.....
Caddo Parish, Caddo Field	3	1	....	2	50	.....
Caddo Parish, Dixie Field	1	....	....	1	.....	.....
Caddo Parish, Greenwood Area	1	....	....	1	.....	.....
Caddo Parish, Pine Island Field	58	43	6	9	2,274	.....
Caddo Parish, Rodessa Field	31	26	5	....	249,025	.....
Caddo Parish, Vivian Area	1	....	....	1	.....	.....
Caddo Parish, Unclassified	6	3	1	2	1,517	.....
Caldwell Parish	3	....	....	3	.....	.....
Catahoula Parish	4	....	1	3	.....	.....
Claiborne Parish	2	....	....	2	.....	.....
Claiborne Parish, Homer Field	2	....	....	2	.....	.....
De Soto Parish, Holly Field	2	2	....	....	35	.....
De Soto Parish, Mansfield Field	1	....	1	....	.....	.....
De Soto Parish, Naborton Field	8	1	5	2	10	.....
De Soto Parish, Unclassified	14	....	1	13	.....	.....
East Carrol Parish	2	....	....	2	.....	.....
Grant Parish	2	....	....	2	.....	.....
Jackson Parish	1	....	....	1	.....	.....
La Salle Parish, Urania Field	8	7	....	1	245	.....
Lincoln Parish	1	....	1	....	.....	.....
Madison Parish	2	....	....	2	.....	.....
Morehouse Parish, Monroe Field	9	....	6	3	.....	.....
Natchitoches Parish	4	....	....	4	.....	.....
Ouachita Parish, Monroe Field	33	....	32	1	.....	.....
Ouachita Parish, Unclassified	3	....	1	2	.....	.....
Rapides Parish	1	....	....	1	.....	.....
Red River Parish	4	....	....	4	.....	.....
Red River Parish, Bull Bayou Field	1	....	....	1	.....	.....
Red River Parish, Naborton Field	1	1	....	....	20	.....
Sabine Parish, Ayers Field	9	3	....	6	464	.....
Sabine Parish, Converse Field	23	16	....	7	1,585	.....
Sabine Parish, Hornbeck Area	1	....	....	1	.....	.....
Sabine Parish, Oak Ridge Area	1	....	....	1	.....	.....
Sabine Parish, Pleasant Hill Field	1	....	....	1	.....	.....
Sabine Parish, Zwolle Field	9	2	....	7	365	.....
Sabine Parish, Unclassified	2	....	....	2	.....	.....
Tensas Parish	1	....	....	1	.....	.....
Union Parish, Monroe Field	18	....	17	1	.....	.....
Union Parish, Unclassified	3	....	1	2	.....	.....
Webster Parish, Unclassified	2	....	....	2	.....	.....
Webster Parish	....	....	....	....	.....	.....
Totals 1935	321	110	92	119	255,651	9,583,200
Totals 1934	403	147	75	181	14,543	9,271,500

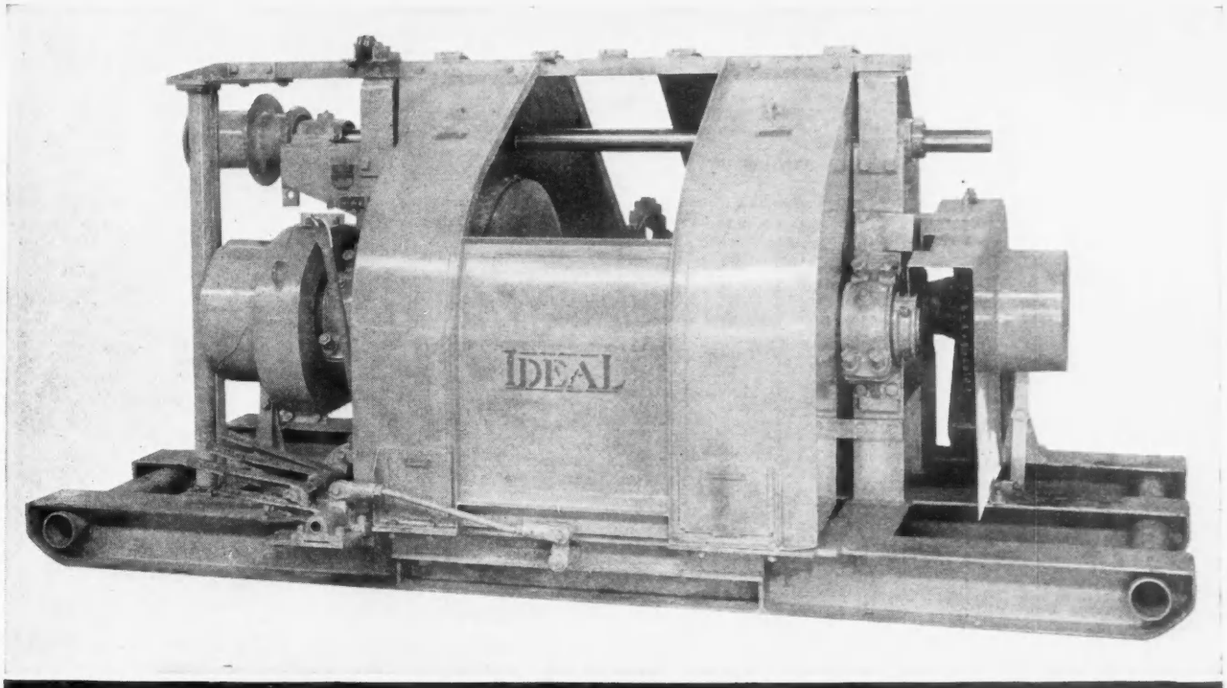
(Continued next column)

[A] Production included with "Others" after August 31, 1935.
[B] First Production shown on week ending August 24, 1935; previously included with "Others".

Louisiana Gulf Coast Drilling and Production in 1935

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Oil Production	Total Bbls. Oil Prod.
Acadia Parish	3	1	....	2	500	.....
Anse La Butte Field	1	1	....	....	40	.....
Avoyelles Parish	1	....	....	1	.....	.....
Bay St. Elaine Field	2	....	....	2	.....	.....
Bayou St. Denis Field [A]	1	1	....	....	2,180	426,600
Beauregard Parish	1	....	....	1	.....	.....
Black Bayou Field	6	3	....	3	1,324	563,600
Bosco Field	61	50	....	11	22,176	6,309,350
Caillou Island Field	13	5	....	8	8,735	2,883,500
Calcasieu Parish	7	....	....	7	.....	.....
Calcasieu Lake Dome Field	1	....	....	1	.....	.....
Cameron Parish	2	2	....	....	340	.....
Cameron Meadows Field [B]	15	14	....	1	6,374	871,900
Choctaw Field	5	4	....	1	2,440	.....
Darrow Field	6	4	....	2	3,493	.....
Dog Lake Field	7	1	....	6	1,500	.....
East Baton Rouge Parish	1	....	....	1	.....	.....
East Hackberry Field	23	16	....	7	7,846	2,409,950
Edgerly Field [C]	4	2	....	2	340	54,150
English Bayou Field	6	6	....	....	3,840	.....
Evangeline Parish	3	1	....	2	25	.....
Four Isle Field	3	1	....	2	2,408	.....
Garden Island Bay Field	3	1	....	2	525	.....
Gillis Field [D]	34	25	....	9	11,346	2,033,550
Grand Island Area	1	....	....	1	.....	.....
Gueydan Field [E]	....	....	....	....	.....	46,050
Hackberry Field	5	1	....	4	950	161,100
Iberia Parish	3	....	....	3	.....	.....
Iowa Field	19	16	....	3	10,548	7,322,750
Jefferson Parish	1	....	....	1	.....	.....
Jefferson Davis Parish	2	....	....	2	.....	.....
Jefferson Island Field	2	1	....	1	1,100	.....
Jennings (Evangeline) Field	13	10	....	3	1,129	677,400
Lafitte Field	1	1	....	....	1,800	.....
La Fourche Parish	3	....	....	3	.....	.....
Lake Barre Field	11	6	....	5	8,740	2,934,450
Lake Hermitage Field	3	1	....	2	384	.....
Lake Pelto Field	1	1	....	....	875	.....
Lake Washington Field [F]	1	....	....	1	.....	307,950
Leesville Field	25	19	....	6	18,474	5,004,250
Lockport Field	10	5	....	5	1,672	654,450
Mamou Prairie Field [G]	....	....	....	....	.....	38,200
New Iberia Field [F]	8	4	....	4	1,714	524,550
Plaquemines Parish	3	....	....	3	.....	.....
Port Barre Field	10	6	1	3	3,045	1,301,900
Roanoke Field	19	14	....	5	10,117	1,585,350
Sorrento Field	3	2	....	1	2,230	.....
St. Bernard Parish	2	....	....	2	.....	.....
St. Landry Parish	1	....	....	1	.....	.....
St. Martin Parish	5	....	....	5	.....	.....
St. Martinsville Field	1	1	....	....	192	.....
St. Mary Parish	2	1	....	1	600	.....
Starks Field	3	1	....	2	100	.....
Sulphur Field	19	11	....	8	4,976	948,350
Sweet Lake Field	1	1	....	....	840	.....
Tangipahoa Parish	1	....	....	1	.....	.....
Tepetate Field	4	4	....	....	2,773	.....
Terrebonne Parish	1	....	....	1	.....	.....
Vinton Field	6	2	....	4	183	904,050
Weeks Island Field	1	....	....	1	.....	.....
Welsh Field	1	1	....	....	15	.....
White Castle Field	10	8	....	2	3,360	206,350
Others	....	....	....	....	.....	2,546,950
Totals 1935	411	255	1	155	151,249	40,716,700
Totals 1934	398	253	3	142	181,478	23,301,400

[A] Production included with "Others" prior to first week in September, 1935.
[B] Production prior to May 4, shown with "Others".
[C] Production included with "Others" after July, 1935.
[D] Production included with "Others" prior to March 23, 1935.
[E] Production included with "Others" after July, 1935.
[F] Production included with "Others" prior to June 1, 1935.
[G] Production included with "Others" prior to December 1, 1935.



New Hoists by NATIONAL

USE AMERICAN ROLLER BEARINGS

The National Supply Company of California is only one of twenty-nine major manufacturers of heavy-duty oil-field equipment who use American Roller Bearings as standard. And not one American Bearing application has ever been abandoned by any manufacturer in the industry.

American Roller Bearings will stand up under the most severe strains and loads incidental to deep drilling. Twenty-one years of continuous use have proved them the best-qualified bearings for the extremely severe conditions encountered by crown blocks, traveling blocks, hoists drawworks, rotary drives, clutch pulleys, pumping units and swivels.

Our experience is available to any manufacturer or producer in studying any intended application of heavy-duty roller bearings. Inquiries are invited. The American Roller Bearing Company, Pittsburgh, Pa.

Large photo shows the new "Ideal" unit-type drawworks, Type K, of the National Supply Company of California, equipped with American Heavy-Duty Roller Bearings.

Small photo shows National's new "Ideal" Type S portable tubing hoist using American Heavy-Duty Roller Bearings as standard equipment.

1. EASY TO INSTALL
2. NEVER NEED ADJUSTMENT
3. SIMPLE IN DESIGN
4. BEST HEAVY-DUTY STEEL
5. SMALLEST POWER LOSS

AMERICAN *Heavy Duty* ROLLER BEARINGS

1935 Annual Field Statistical Review 1935

Oklahoma Drilling and Production in 1935

COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Oil Production	Total Bbls. Oil Prod.
Allen Field	.....	....	....	....	.....	2,827,500
Asher Field [A]	.....	....	....	....	.....	94,050
West Asher Field [A]	.....	....	....	....	.....	229,950
Atoka County	13	....	....	13	.....	.....
Beckham County	6	....	2	4	.....	.....
Blackwell District	.....	....	....	....	.....	1,751,750
Blaine County	1	....	....	1	.....	.....
Bowlegs Field	.....	....	....	....	.....	3,888,150
Bristow-Slick Field	.....	....	....	....	.....	3,352,450
Bryan County	4	....	....	4	.....	.....
Burbank Field	.....	....	....	....	.....	3,101,300
South Burbank Field	.....	....	....	....	.....	3,990,750
Caddo County	6	1	1	4	140	.....
Canadian County	1	....	....	1	.....	.....
Carr City Field	.....	....	....	....	.....	2,007,150
Carter County	73	48	....	25	3,005	.....
Chandler Field	.....	....	....	....	.....	1,842,950
Choctaw County	4	....	....	4	.....	.....
Cleveland County	3	....	1	2	.....	.....
Coal County	3	....	....	3	.....	.....
Comanche County	26	8	1	17	165	.....
Cotton County	9	5	....	4	102	.....
Creek County	209	129	10	70	8,051	.....
Crescent County	.....	....	....	....	.....	1,890,200
Cromwell Field	.....	....	....	....	.....	1,565,000
Cushing-Shamrock Field	.....	....	....	....	.....	4,730,600
Davenport Field [A]	.....	....	....	....	.....	160,650
Duncan District	.....	....	....	....	.....	1,549,400
Earlsboro Field	.....	....	....	....	.....	3,346,950
East Earlsboro Field	.....	....	....	....	.....	3,487,700
South Earlsboro Field	.....	....	....	....	.....	390,350
Edmund Field [B]	.....	....	....	....	.....	1,388,500
Fish Field	.....	....	....	....	.....	3,459,850
Fitts Field	.....	....	....	....	.....	6,822,900
Garfield County	5	1	1	3	2	.....
Garvin County	7	....	....	7	.....	.....
Grady County	17	5	5	7	270	.....
Graham Field	.....	....	....	....	.....	1,454,200
Grant County	3	1	....	2	200	.....
Gray Field	.....	....	....	....	.....	633,300
Greer County	7	....	....	7	.....	.....
Harmon County	4	....	....	4	.....	.....
Healdton Field	.....	....	....	....	.....	3,382,250
Hewitt Field	.....	....	....	....	.....	1,719,100
Holdenville Field	.....	....	....	....	.....	585,800
Hughes County	59	36	5	18	11,077	.....
Jackson County	52	25	1	26	1,464	.....
Jefferson County	23	14	....	9	360	.....
Johnston County	4	....	....	4	.....	.....
Kay County	23	8	3	12	276	.....
Keokuk Field	.....	....	....	....	.....	850,550
Kingfisher County	1	....	....	1	.....	.....
Kiowa County	4	....	....	4	.....	.....
Konawa Field	.....	....	....	....	.....	718,550
Le Flore County	1	....	....	1	.....	.....
Lincoln County	37	18	....	19	3,168	.....
Little River Field	.....	....	....	....	.....	5,123,650
East Little River Field	.....	....	....	....	.....	314,900
Logan County	43	26	....	17	48,988	.....
Lucien Field	.....	....	....	....	.....	3,566,500
Major County	1	....	....	1	.....	.....
Marshall County	55	29	3	23	359	.....
Marshall-Lovell Field	.....	....	....	....	.....	365,550
Maud Field	.....	....	....	....	.....	451,250
McClain County	1	....	....	1	.....	.....
McIntosh County	5	....	2	3	.....	.....
Mission Field	.....	....	....	....	.....	1,112,700
Murray County	4	....	....	4	.....	.....
Muskogee County	37	22	1	14	552	.....
Noble County	58	50	....	8	78,101	.....
Okfuskee County	56	22	17	17	8,521	.....
Oklahoma City Field	.....	....	....	....	.....	53,131,100
Oklahoma County	104	86	....	18	476,657	.....
Okmulgee County	140	63	18	59	1,401	.....
Osage County	302	237	4	61	106,531	.....
Osage County, Outside Burbank	.....	....	....	....	.....	9,565,500
Papoose Field	.....	....	....	....	.....	453,300
Pawnee County	15	6	1	8	88	.....
Payne County	3	2	....	1	1,160	.....
Pittsburgh County	7	....	3	4	.....	.....
Polo Field [C]	.....	....	....	....	.....	1,104,550
Pontotoc County	337	282	10	45	1,682,067	.....
Pottawatomie County	120	88	1	31	26,173	.....
Sasakwa Field	.....	....	....	....	.....	459,000
Sasakwa Townsite	.....	....	....	....	.....	548,850
St. Louis-Pearson Field	.....	....	....	....	.....	8,618,350
Scholem-Alechem Field	.....	....	....	....	.....	1,448,600
Searight Field	.....	....	....	....	.....	1,442,950
Seminole Field	.....	....	....	....	.....	4,036,300
Seminole County	218	172	5	41	164,586	.....
East Seminole Field	.....	....	....	....	.....	459,550
Stephens County	119	58	9	52	1,095	.....
Tatums County	.....	....	....	....	.....	1,780,250
Tillman County	5	....	....	5	.....	.....
Tonkawa-Garber-Thomas	.....	....	....	....	.....	2,160,500
Tulsa County	47	12	11	24	310	.....
Wagoner County	34	15	3	16	875	.....
Washita County	2	....	....	2	.....	.....
Wewoka Field	.....	....	....	....	.....	1,337,400
Woodson County	2	....	....	2	.....	.....
Yale-Jennings Field	.....	....	....	....	.....	1,732,350
Others	.....	....	....	....	.....	20,717,050
Totals 1935	2,320	1,469	118	733	2,625,744	181,152,000
Totals 1934	1,925	1,222	95	608	989,927	176,506,550

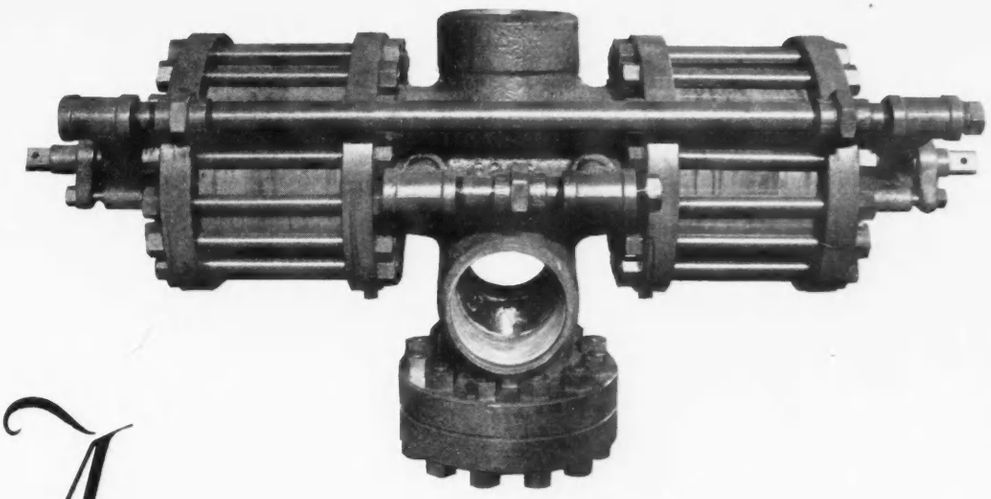
[A] Included with "Others" after August 31, 1935.
[B] Edmund included with "Others" prior to February 9, 1935.
[C] Polo included prior to February 9, 1935 under "Others"

Kansas Drilling and Production in 1935

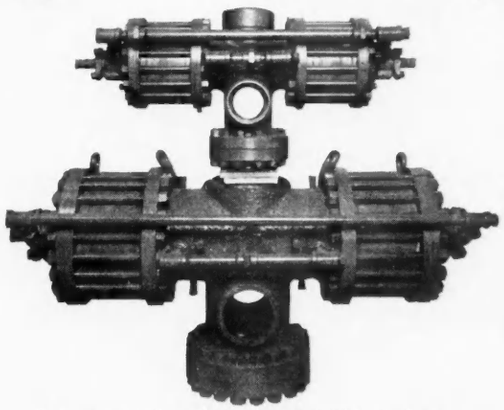
COUNTY OR FIELD	Completions	Oil Wells	Gas Wells	Failures	Initial Oil Production	Total Bbls. Oil Prod.
Augusta Field	.....	....	....	....	.....	727,150
Barber County	6	....	2	4	.....	.....
Barton County	38	20	....	18	14,539	.....
Butler County	80	49	1	30	4,098	.....
Burrton-Haury Field [B]	.....	....	....	....	.....	7,338,850
Chase-Byers District [A]	4	1	....	3	50	4,493,100
Chautauqua County	5	2	....	3	75	.....
Clay County	2	....	....	2	.....	.....
Coffey County	8	6	2	....	135	.....
Cowley County	39	27	....	12	5,114	.....
Elbing Field	.....	....	....	....	.....	402,050
El Dorado-Towanda Field	.....	....	....	....	.....	3,928,700
Elk County	20	13	....	7	418	.....
Ellis County	12	4	....	8	1,906	.....
Ellsworth County	101	78	2	21	101,582	.....
Graham County	2	....	....	2	.....	.....
Grant County	1	....	....	1	.....	.....
Greenwood County	74	43	2	29	2,049	3,980,650
Harper County	1	....	....	1	.....	.....
Harvey County	42	26	3	13	7,460	.....
Hollow-Nikkel Field [B]	.....	....	....	....	.....	1,622,850
Kingsman County	8	6	1	1	789	.....
Logan County	1	....	....	1	.....	.....
Lorraine Field [C]	.....	....	....	....	.....	1,296,100
Lyon County	3	1	....	2	140	.....
Marion County	8	4	....	4	836	.....
McPherson County	104	71	4	29	16,699	.....
Morris County	2	....	1	1	.....	.....
Ness County	2	....	....	2	.....	.....
Nikkel Field [D]	.....	....	....	....	.....	1,384,100
Osage County	2	....	....	2	.....	.....
Osborne County	1	....	....	1	.....	.....
Oxford City Field [E]	.....	....	....	....	.....	785,500
Pawnee County	1	....	....	1	.....	.....
Pratt County	5	4	....	1	1,955	.....
Rainbow Bend Field	.....	....	....	....	.....	404,750
Raymond Field	.....	....	....	....	.....	1,036,750
Reno County	153	126	6	21	160,348	.....
Rice County	216	180	5	31	150,523	.....
Ritz-Canton Field	.....	....	....	....	.....	3,058,550
Rooks Field	6	2	....	4	306	.....
Rush County	20	....	8	12	.....	.....
Russell County	175	130	....	45	75,546	4,191,950
Saline County	1	....	....	1	.....	.....
Scott County	4	3	....	1	2,320	.....
Sedgwick County	59	39	....	20	17,314	3,048,950
Stafford County	18	9	....	9	7,815	.....
Steckel-Isern Field [F]	.....	....	....	....	.....	321,350
Sumner County	53	44	....	9	266,683	.....
Trego County	6	3	....	3	1,414	.....
Voshell Field	.....	....	....	....	.....	1,716,400
Washington County	1	....	....	1	.....	.....
Woodson County	30	18	....	12	1,867	.....
Others	.....	....	....	....	.....	13,275,650
Totals 1935	1,314	909	37	368	841,981	53,013,400
Totals 1934	926	632	21	273	327,090	45,577,050

[A] Byers included with Chase, beginning December 14, 1935.
[B] Nikkel included with Hollow only during December, 1935.
[C] Production shown separately for first time week ending July 13, previously 1935; included with "others".
[D] Nikkel included with Hollow during December, 1935.
[E] Production prior to September 1, 1935, shown with "others".
[F] Steckel production shown with "others" prior to October 13, 1935.

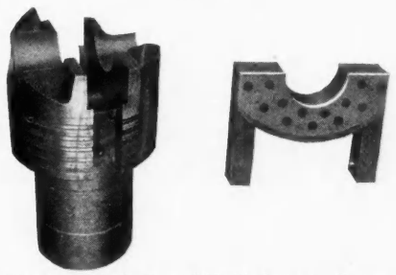
(Continued next column)



A NEW 7-INCH PRESSURE OPERATED CAMERON PREVENTER — *for quick, easy handling on the Oil String*



Note comparative sizes of the 13⅜-inch Cameron single flange Type "SDA" Blowout Preventer, and the 7-inch size shown above. This is an unretouched photograph taken in the plant of the Cameron Iron Works, Inc.



The new 7-inch Type "SDA" Cameron Pressure Operated Blowout Preventer is equipped with the new patented self-feeding ram packing element. This packing element has proven itself capable of withstanding long sustained rotation and spudding of the drill pipe while rams are closed against pressure. One operator rotated and spudded for 22½ hours before successfully killing his well, and packing elements were undamaged.

This light, compact, full pressure operated Type "SDA" Cameron Blowout Preventer is designed to take over the job when the oil string has been set and cemented. It releases your "big-inch" preventer for another location, yet provides exactly the same high degree of safety against blowouts. Flanging up is a matter of minutes rather than hours. Ram changing is simple, fast and easy. Ruggedly built to control the highest well pressures, and embodies all features of the latest type Cameron preventers—including the self-feeding ram packing elements. Features and advantages are listed below:

1. Releases regular drilling preventer for use on another location.
2. Is quickly and easily installed and flanged up.
3. Provides positive protection against blowouts through the oil string.
4. Eliminates necessity of changing rams of regular drilling preventer to close around drilling-in string.
5. Changing of 7-inch Type "SDA" Preventer rams to close around tubing is a simple, quick and easy job.
6. Is convenient to install above almost all types of tubing heads while running tubing string, or while setting liner and screen on tubing.
7. Seals positively around any size pipe from 1-5/16-inch O.D. to 4½-inch O.D.
8. Lowers investment in extra rams and reducing flanges for large drilling preventer sufficiently to pay own cost.
9. Is light and easy to handle. Weighs 1930 pounds, complete, as compared to 6000 pounds for a 13⅜-inch single flange Type "SDA" Preventer.
10. Extra rams to seal around various sizes of pipe and tubing cost much less than for large size preventer.

Full details and specifications covering the Cameron 7-inch Type "SDA" Pressure Operated Blowout Preventer will be sent on request to anyone interested.

CAMERON IRON WORKS, INC.

711 MILBY STREET · · HOUSTON, TEXAS

EXPORT OFFICE: 74 TRINITY PLACE, NEW YORK, N. Y.

THE COOPER-BESSEMER CORPORATION

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Gains Are Held

MARKETS GENERALLY STEADY FOLLOWING PRICE ADVANCES

THE markets have continued to hold the brisk gains made recently, and late last week there were no circumstances indicating any impending change in the existing situation.

An important development of the past week was the launching of renewed efforts to bring about a substantial reduction of crude production in California. Producers in that state were putting forth special efforts last week toward achieving the curtailment, following an announcement by a leading purchasing company that it would raise crude prices about 5 to 20 cents a barrel if California output is cut down to 537,000 barrels daily. However, the state has been producing around 675,000 barrels per day, and it was doubtful if the desired reduction could be effected.

California was practically the only state that failed to share in the recent crude price advances, and such failure is explained by the fact California has been steadily overproducing and running oil to storage in recent months. The crude prices still are comparatively high in California, but the markets for products are depressed.

Markets Firm Outside California

East of California the markets last week were generally steady, following the gains that involved higher prices for crude oil and for gasoline, kerosene, fuel oil, and other products, wholesale and retail.

The Mid-Continent tank car prices of gasoline now are the highest for more than five years, with low octane material at 5¼ cents a gallon in Oklahoma and North Texas and at 5⅛ cents at East Texas refineries.

Retail gasoline prices also have been steady, following advances throughout most of the country east of California in the wake of the crude price and tank car price increases.

During the past week there was no appreciable change in the Group Three (Oklahoma) market, except that extremely cold weather was tending to strengthen the kerosenes and burning oils, which had shown a tendency to weaken during the preceding week. Naturals also were inclined to be stronger.

All retail stations in Oklahoma had increased prices one cent per gallon, except those whose prices always have been from one to three cents below the regular postings.

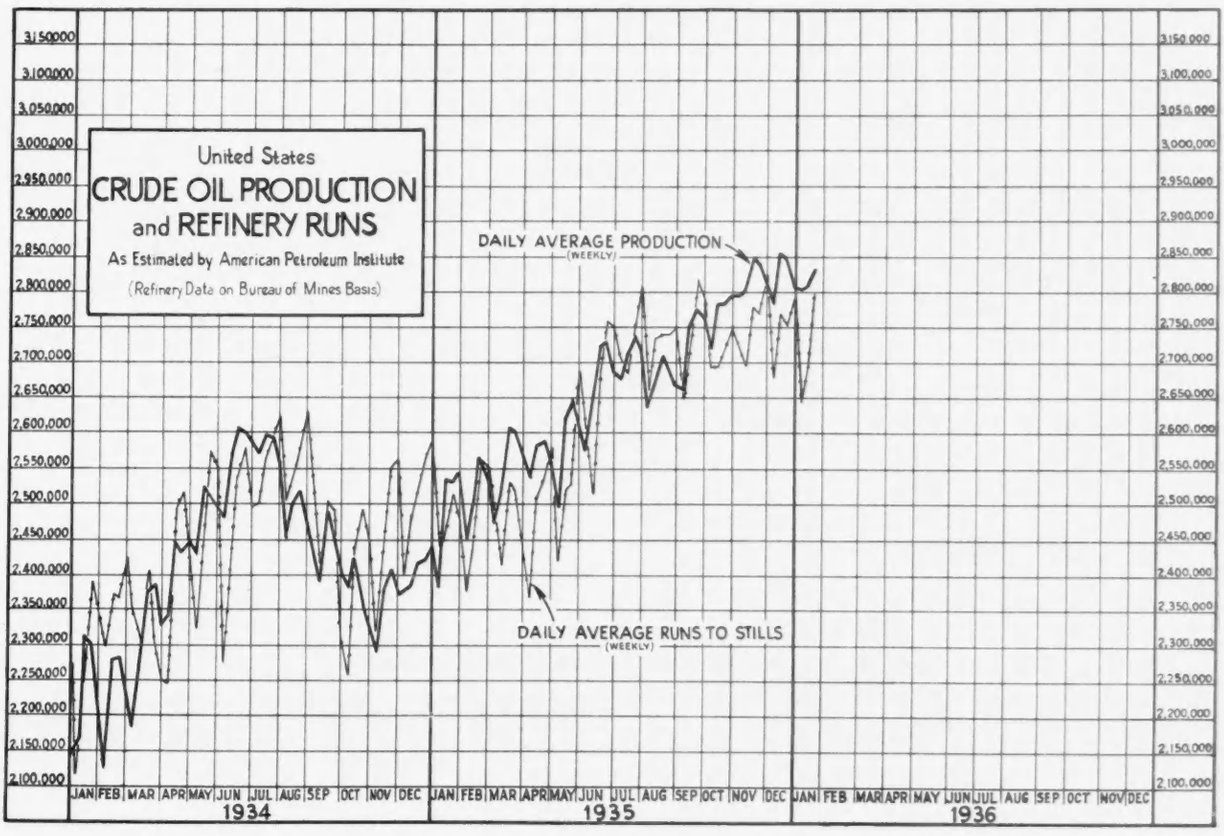
Market Firm in East Texas

The refined oil situation in East Texas has rounded out into a healthy condition. Gasoline purchases by the major companies through their buying pool were netting the refiners 5⅛ cents a gallon, while the same federal-tendered material sold independently was bringing 5 to 5⅛ cents.

In order to obtain the new top price the East Texas refiners must depend mainly on the major company purchases, as there is but little demand currently in "northern" markets.

Gasoline moved under state tenders only, and naturally restricted to Texas markets, is firm at 5 cents with a good demand; and very little trucked gasoline is selling for less than 5 cents. A little "shady" material is being sold without tenders at a fraction under 5 cents.

Some of the East Texas refiners are



endeavoring to obtain larger supplies of crude for their operations, and consequently are taking some well connections away from the major companies through special inducements, such as cash loans to the producers for drilling of more wells and a 7½-cent per barrel gathering charge to producers having their own gathering lines.

PROMISE ADVANCE

Californians to get hike if production curtailed

LOS ANGELES.

THE California oil producer has been offered the opportunity of selling his output at an increase of approximately 22 percent provided he will reduce his production a like amount. For the first time in the history of California oil industry a major purchasing company has come out in the open and officially made such an offer, and as a result of such offer, field meetings were held throughout the state the past week, and field committees will report to the Central Committee, January 27, in a general meeting in Los Angeles as to the attitude of the various producers in the various fields of the state.

Following the start of the movement to considerably reduce daily production in California, at first to a daily average of 600,000 barrels, the Standard Oil Company of California sent out an official statement to producers whose production the company buys, urging that daily average production be reduced to 537,000 barrels, and promising to raise average Long Beach crude of 27 gravity from 90 cents to $1.10 per barrel, if the state would reduce average production to 537,000 barrels. Promise was made that corresponding adjustments would be made for other crudes with a promise that heavy crude would also be increased at least five cents a barrel.

East Texas Tank Car Shipments

Week Ending January 19, 1936

PRODUCTS	No. Cars	Estimated Gallons
Gasoline	501	4,069,598
Fuel Oil	238	2,276,485
Casinghead Gasoline	208	1,787,841
Distillate	68	550,765
Gas Oil	33	267,147
Topped Crude	19	186,976
Kerosene	21	164,342
Residuum	3	24,468
Total	1,091	9,327,622
Total Previous Week	1,091	9,297,488
Interstate	384	.....
Coastwise	371	.....
Intrastate	336	.....
Total	1,091	.....

In effect, this means that if producers of 100 barrels a day of Long Beach 27 gravity crude oil reduced production 22 percent, the price increase would be from 90 cents to $1.10 a barrel, close to 22 percent increase, and the reduced production would bring to the producer close to what he had received for his total production at the lower price.

Situation Is Critical

The Standard's statement was rather blunt in stating that if production continued at an average of about 680,000 barrels daily, available storage would be filled in a few weeks, and that the situation is critical.

That the situation has reached a critical stage is not disputed by any oil man, large or small. All efforts to bring about reduction of production under a voluntary plan have failed in the past few months. The state has no law that could be used to force crude oil production, and the only law that can be used is the one which forbids waste of natural gas. This has helped but little.

It is indicated that a fight is brewing before the central committee of California oil producers January 27, when producers from certain heavy oil fields will demand they be given a percentage production reduction in keeping with the proposed price increase. They feel they should be given an allowable reduction in keeping with percentage increase in price to be posted.

It is proposed, for instance, that oil of 27 gravity at Long Beach will be increased from 90 cents to $1.10 a barrel; while producers of heavy oil are promised only a five-cent increase per barrel, but are expected to reduce production 22 percent. They object, and a fight is promised when the central committee meets in Los Angeles, January 27.

OIL BUYERS ACTIVE

Well connections sought in East Texas field

INDEPENDENT crude purchasing agencies in the East Texas field are making deep inroads on the outside well connections held by the majors. Buyers have been more aggressive in lining up crude supplies since the posting of the 15-cent price advance as the market quotations on gasoline and other refined products advanced proportionately.

Local refiners have restricted their runs on illicit production to about 12,300 barrels daily and are in the midst of the fight for a share of the prorated oil currently limited to 434,850 barrels daily. Payment of a gathering tariff of 7½ cents per barrel by refining units with plants situated outside the district to independent gathering systems in East Texas is becoming prevalent.

The margin of profit afforded by the 7½-cent tariff enables the independents to pay small premiums above the $1.15 posting as likewise encouraged the building of private systems by producers in order to attain the added revenue.

Construction of a gathering system in the Joiner area has been started by the Bradford Pipe Line Company, a new organization formed by Harry B. Harter, Tyler, and associates. This company is reported to have contracted to handle the allowable production from 55 wells including 26 heretofore served by a major, and will deliver the oil for one year to an independent re-

Summary of Wells Completed in the United States Week Ending January 18, 1936

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total Completions 1936	Total Completions thi date 1935
Alabama	....	....	....	....	.....	....	....
Arkansas	....	....	....	....	.....	4	15
California	22	16	....	6	8,695	53	35
Colorado	....	....	....	....	.....	....	1
Illinois	....	....	....	....	.....	....	3
Indiana	22	4	4	14	33	22	5
Kansas	32	28	2	2	29,783	71	74
Kentucky	....	....	....	....	.....	....	4
Louisiana	7	6	....	1	1,650	33	43
Michigan	14	6	3	5	2,165	68	20
Mississippi	....	....	....	....	.....	....	2
Montana	4	4	....	....	514	10	5
New Mexico	5	5	....	....	7,344	16	12
New York	....	....	....	....	.....	....	....
Ohio	35	12	13	10	72	88	93
Oklahoma	64	36	7	21	69,950	165	112
Pennsylvania	....	....	....	....	.....	....	17
Texas	196	151	6	39	254,799	623	613
Utah	....	....	....	....	.....	....	....
West Virginia	17	3	11	3	26	51	15
Wyoming	1	....	....	1	.....	4	1
Total this week	419	271	46	102	375,031	1,208	1,070
Total last week	405	269	34	81	496,920	....	....
Total this year	1,208	794	127	287	1,331,813	....	....

Comparison of Permits Granted for New Wells

STATE	Week Ending Jan. 18	Total this Mo.	Total this Year	Total this Date Last Year	1935 Year Total
Arkansas	4	8	8	15	70
California	18	24	24	28	925
Louisiana	...	43	43	39	846
Kansas	32	79	79	86	1,204
Michigan	23	39	39	32	749
Oklahoma	58	130	130	120	2,311
Texas	166	580	580	636	10,809
Total	301	903	903	956	16,964

finery at Houston with a gathering tariff of 7½ cents per barrel applying. R. W. Fair and C. L. Thompson, Tyler, will install a gathering system in the Joiner area, according to reports, and receive 7½ cents tariff on a one-year contract made with a refinery in Louisiana. Controlled production and royalty oil held by the partnership amounts to about 1200 barrels daily. Deliveries to the buyers will be made through Atlas Pipe Line Company trunk lines.

More competition for crude supplies will follow the completion of American Liberty Pipe Line Company's eight-inch carrier to Houston. Work on this trunk line, the first independent outlet to the coast, is now under way.

East Texas refineries are processing approximately 33,300 barrels of legally produced crude daily. This figure includes controlled production and outside purchases, and increased more than 300 barrels since the first of the year. Majors have attempted to meet competition for outside crude supplies by paying a gathering tariff of five cents per barrel for quantities of crude controlled by independent lines.

SMALL CHANGE

Production Shows Gain of 7175 Barrels Daily

UNITED STATES crude oil production last week, ended January 25, was 7175 barrels per day higher than in the previous week, and exceeded the Bureau of Mines recommendation for January by 275,000 barrels per day. The new production rate was 2,834,075 barrels daily.

As in the case of the United States total, the output remained about unchanged for most of the states and districts, including the leading producing areas.

California production was up 500 barrels at 683,500 barrels per day, continuing about 165,000 barrels a day above the amount recommended by the federal government. Determined efforts were being made, however, to bring the state's output down substantially; and some reduction is promised for the immediate future, as it has been indicated crude prices would be increased if the production is adequately curtailed.

Louisiana output declined about 2000 barrels to 176,350, with the northern section of the state causing the drop. The new rate was nevertheless 43,750 barrels above the Bureau of Mines estimate of demand.

Texas averaged 1,035,300 barrels daily, 400 barrels less than in the previous week, and was therefore 18,100 barrels above the federal government recommendation.

Oklahoma's 508,050 barrels per day was 1900 barrels above the previous week's average, and 27,050 barrels above the Bureau of Mines calculation of demand.

Kansas last week averaged 139,925 barrels per day, or 250 barrels more than in the previous week, and was 5925 barrels above the indicated demand.

United States Crude Oil Production

Estimates Compiled by THE OIL WEEKLY

DISTRICT OR STATE	BARRELS DAILY FOR WEEK ENDING January 25	January 18
TEXAS—		
Texas Panhandle	59,500	58,200
North Texas	56,800	56,700
West Central Texas	25,400	25,200
West Texas	146,800	146,600
East Central Texas	42,800	47,500
*East Texas Field	432,800	431,800
†South Texas	67,500	65,600
†Texas Gulf Coast	203,700	204,100
*Total Texas	1,035,300	1,035,700
OKLAHOMA—		
Oklahoma City	141,675	141,075
Seminole Area	124,675	122,325
Tatums	3,700	3,700
Lucien	10,500	10,650
Fitts	36,850	39,150
Edmond	8,150	6,600
Others	182,500	182,650
Total Oklahoma	508,050	506,150
KANSAS—		
Ritz-Canton	7,250	7,150
Voshell	3,400	3,375
Nikkel-Hollow	4,925	5,025
Sedgwick	6,100	6,050
Oxford	6,875	7,375
Burrton-Haury	13,100	12,675
Lorraine	8,550	9,275
Others	89,725	88,750
Total Kansas	139,925	139,675
LOUISIANA—		
North Louisiana	46,550	51,200
Louisiana Gulf Coast	129,800	127,300
Total Louisiana	176,350	178,500
ARKANSAS	29,850	30,075
CALIFORNIA—		
Long Beach	76,500	77,500
Santa Fe Springs	54,500	54,000
Huntington Beach	41,500	43,000
Dominguez	31,500	30,000
Inglewood	17,000	16,500
Ventura Avenue	41,000	41,000
Seal Beach	7,500	7,500
Midway-Sunset	61,000	62,500
Elwood	17,000	15,500
Kettleman Hills	98,500	98,000
Mountain View	35,500	34,000
Playa del Rey	16,000	16,000
Others	186,000	187,500
Total California	683,500	683,000
MOUNTAIN STATES—		
Wyoming	35,850	35,500
Montana	12,850	12,600
Colorado	4,100	4,100
Total Rocky Mountain States	52,800	52,200
NEW MEXICO	58,000	58,700
EASTERN STATES	108,500	102,300
MICHIGAN	41,800	40,600
*Total United States	2,834,075	2,826,900
*Surreptitiously produced oil in East Texas, not included in above figures, estimated at	10,000	10,000
Grand Total, including surreptitious production	2,844,075	2,836,900

†Coastal District of South Texas is included with Texas Gulf Coast.

Crude Runs to Stills; Stocks of Finished and Unfinished Gasoline and Gas and Fuel Oil, and Cracked Gasoline Production, Week Ended January 18, 1936

(Figures in thousands of barrels of 42 gallons each, reported by American Petroleum Institute.)

DISTRICT	Daily Refining Capacity			Crude Runs to Stills		Stocks of Finished and Unfinished Gasoline				Stocks of Gas and Fuel Oil			Daily Charging Capacity of Cracking Units			Cracked Gasoline Production
		Reporting				Finished								Reporting		
	Potential Rate	Total	%	Daily Average	% Operated	At Refineries	Terms. Trans. Pipe Lines	Unfinished in Naphtha Distillates	Total Finished and Unfinished			Total	Potential Rate	Total	%	Daily Average
East Coast	612	612	100.0	436	71.2	4,320	8,669	920	13,909	.....	.....	8,281	534	534	100.0	89
Appalachian	154	146	94.8	98	67.1	1,236	916	244	2,396	.....	.....	800	79	78	98.7	21
Ind., Ill., Ky.	442	424	95.9	372	87.7	4,819	3,645	770	9,234	.....	.....	3,281	349	348	99.7	101
Okla., Kans., Mo.	453	384	84.8	272	70.8	3,380	2,223	605	6,208	.....	.....	4,345	256	228	89.1	66
Inland Texas	330	160	48.5	102	63.8	1,106	26	170	1,302	.....	.....	1,479	148	105	70.9	27
Texas Gulf	680	658	96.8	581	88.3	5,155	244	1,762	7,161	.....	.....	9,674	399	393	98.5	118
Louisiana Gulf	169	163	96.4	122	74.8	844	440	214	1,498	.....	.....	4,107	77	74	96.1	20
North La.—Ark.	80	72	90.0	46	63.9	234	56	54	344	.....	.....	607	46	44	95.7	9
Rocky Mountain	97	60	61.9	44	73.3	959	.....	101	1,060	.....	.....	752	46	39	84.8	13
California	852	789	92.6	531	67.3	8,437	2,328	1,225	11,990	.....	.....	68,784	280	280	100.0	52
Reported	.....	3,468	89.6	2,604	75.1	30,490	18,547	6,065	55,102	.....	.....	102,110	.....	2,123	95.9	516
Estimated Unreported	.....	401	....	196	....	2,357	918	402	3,677	.....	.....	3,027	.....	91	....	34
*Estimated Total U.S. January 18, 1936	3,869	3,869	....	2,800	....	32,847	19,465	6,467	58,779	.....	.....	105,137	2,214	2,214	....	550
*Estimated Total U.S. January 11, 1936	3,869	3,869	....	2,695	....	31,477	19,585	6,173	57,235	.....	.....	106,115	2,214	2,214	....	565
U.S.B. of M., Jan. 1935	.....	....	....	2,434	....	†33,224	†20,042	†5,339	†58,605	.....	.....	†104,174	.....	....	....	509

*Bureau of Mines basis currently estimated. †As of January 31, 1935.

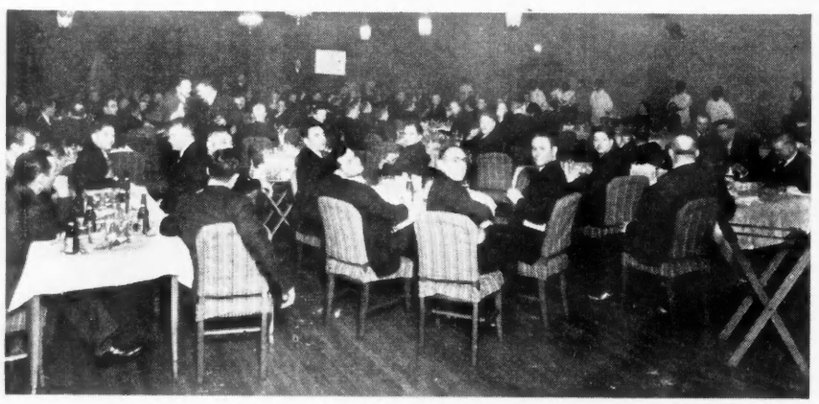
WILD GAME DINNER

Houston.—After a wild game hunt in the Jackson Hole country of Wyoming, more than 200 prominent Houston, Dallas and Fort Worth, Texas, oil executives were the guests, January 20, at a dinner at the Houston Club of seven oil men who attended the hunt.

The dinner was given by Harry W. Bass, Dallas drilling contractor; Ernest Cockrell, Houston independent oil operator; William Coplin, Houston independent oil operator; D. E. Legan, superintendent of Tide Water Oil Company; A. H. Rowan, of the Rowan Drilling Company; A. T. McDannald and R. Y. Smith, of McDannald-Smith Drilling Company.

The hunting party bagged six moose, six elk and one black bear.

The guests at the dinner were entertained by moving pictures taken by the party while on the hunting trip during the course of the dinner. It is reported some interesting pictures were taken while on the trip. Besides the moving pictures, several addresses were delivered by members of the hunting party, who described the highlights of the successful hunt and explained the motion pictures.



Two hundred Texas oil men enjoined at wild game dinner in Houston recently.

LIMIT SCRUBBER OIL

Austin.—The Texas Railroad Commission has issued an order fixing a maximum allowance for "scrubber" oil handled by gasoline plants in the state. The order limits the movement to .75 barrel per well per month for the wells to which the plant is connected.

Recently the commission held a hearing at Austin at which testimony was developed to show that in some cases it appeared that gasoline plants were moving some excess production under the classification of "scrubber oil." It was to eliminate this practice that the order issued last week was adopted.

WORK OUT PLAN

Better hot oil control sought by Texas bodies

Austin.—The legislative hot oil committee attempted January 24 to work out an agreement between state departments which would improve enforcement of confiscation laws of Texas.

During a series of conferences with the attorney general, the railroad commission, and the comptroller, a complete program of manifests was prepared, and a plan tentatively set up to establish a new method of handling confiscation cases.

The committee Friday effected this agreement and department employes were designated to draw up the articles. These articles will provide, among other things, that the railroad commission furnish the attorney general complete information upon which to base a suit. It will then be up to the attorney general to file the action.

CRUDE OIL PRICE QUOTATIONS

(Figures Represent Basic or Flat Prices—Revised to January 24, 1936)

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Oklahoma-Kansas	28—$0.94	2¢	40—$1.18	1- 9-36
N. and N.-C. Texas	28— .84	2¢	40— 1.08	1- 9-36
Texas Panhandle				
Gray County	34— .86	2¢	40— .98	1- 9-36
Carson-Hutchinson	34— .81	2¢	40— .93	1- 9-36
West Texas				
Ector, Pecos, W'kler, Crane, Upton, Howard and Glasscock	29— .76	2¢	36— .90	1-14-36
West Central Texas	28— .84	2¢	40— 1.08	1- 9-36
East Central Texas	28— .91	2¢	40— 1.15	1- 9-36
East Texas	*1.15			1- 9-36
Texas Gulf Coast				
Anahuac-Dickinson	30— 1.04	2¢	40— 1.24	1- 9-36
Conroe	35— 1.24	2¢	40— 1.34	1- 9-36
Tomball	*1.30			1- 9-36
Cleveland	*1.00			1-11-34
†Goose Creek, Hull Liberty, Orange, Pierce Junction, Moss Bluff, Raccoon Bend, Sour Lake, Spindletop, Sugarland, West Columbia, Humble, Rabbs Ridge	Below 17— .88	2¢	34— 1.22	1- 9-36
South and S. W. Texas	Below			
Refugio (Light)	17— .88	2¢	34— 1.22	1- 9-36
Refugio (Heavy)	* .90			1- 9-36
Saxet	* .90			1- 9-36
Mirando	* .85			1- 9-36
Pettus	*1.25			1- 9-36
Salt Flat	* .97			1-14-36
Darst Creek	* .97			1-14-36
Port Lavaca	* .97			
Plymouth	* .90			12-17-35
Arkansas				
El Dorado (Light) and Rainbow	25— .78	2¢	40— 1.10	1-10-36
El Dorado East Field and Smackover	*.75			1-10-36

* All gravities—flat rate.
† Gulf Coast prices as posted by Humble Oil & Refining Company.

DISTRICT	Low Grav.	Dif.	High Grav.	Date
North Louisiana	25—$0.78	2¢	40—$1.10	1-10-36
Urania	* .97			1-10-36
South Louisiana	Below			
Lockport	19— .92	2¢	34— 1.22	1- 9-36
	Below			
Iowa, Cameron Mds.	19— .82	2¢	34— 1.12	1- 9-36
Rocky Mountain States				
Salt Creek	29— .94	2¢	40— 1.18	1-10-36
Elk Basin	*1.28			1- 9-36
Grass Creek (Light)	*1.28			1- 9-36
Grass Creek (Heavy)	.58			1- 9-36
Big Muddy	*1.11			1- 9-36
Rock Creek	*1.12			1- 9-36
Sunburst	*1.25			1- 9-36
Lance Creek	* .90			1- 9-36
Osage	*1.08			‡
Cat Creek	*1.07			8-25-33
Cut Bank	*1.45			9-29-33
Pondera	*1.05			9-29-33
Hog Back, N. M.	*1.00			9- 8-33
Lea County, N. M.	* .75			9-29-33
Mid-West States				
Lima	*1.25			1-10-36
Illinois	*1.23			1- 9-36
Princeton	*1.23			1- 9-39
Western Kentucky	*1.23			1- 9-36
Pennsylvania				
Bradford	*2.45			1-13-36
Sw. Pa. Pipe Line	*2.17			1-13-36
Eureka Pipe Line	*2.12			1-13-36
Buckeye Pipe Line	*1.97			1-13-36
Corning Grade	*1.42			1-13-36
Michigan				
Central Michigan	*1.12			11- 7-35
Muskegon	* .70-1.00			12-31-32
Canada				
Petrolia	*2.10			9- 9-33
Oil Springs	*2.17			9- 9-33

* All gravities—flat rate.
‡ Average price, all oil sales being to small refineries.

MAJOR PRICE CHANGES

	Penna. (Nat. Fr.)	Mid.-Cont. (36 Gr.)	Calif. (26 Gr.)
May 22, 1933	Up 10	.....	.....
June 19, 1933	Up 10	Up 19	.....
June 26, 1933	Up 10	.....	Up 9-12
July 6, 1933	Up 13	Up 10	.....
July 17, 1933	Up 15	.....	.....
July 28, 1933	Up 15	.....	.....
August 11, 1933	Up 10	.....	.....
August 24, 1933	.....	Up 10	.....
August 30, 1933	Up 15	.....	.....
September 6, 1933	Up 10	Up 10	Up 15
September 8, 1933	.....	Up 15	.....
May 1, 1934	Up 10	.....	.....
November 16, 1934	Cut 25	.....	.....
December 6, 1934	Cut 25	.....	.....
January 4, 1935	Up 15	.....	.....
February 4, 1935	Up 15	.....	.....
May 16, 1935	Cut 15	.....	.....
June 26, 1935	Cut 15	.....	.....
July 16, 1935	Cut 10	.....	.....
August 26, 1935	.....	.....	Cut °46
September 6, 1935	Up 15	.....	.....
October 29, 1935	Up 15	.....	.....
November 1, 1935	.....	.....	Up °28
November 18, 1935	Up 15	.....	.....
December 6, 1935	.....	.....	Up °9
January 9, 1936	.....	Up 10	.....
January 13, 1936	Up 15	.....	.....

CRUDE PRODUCTION TAXES

Oklahoma—Five percent of gross value less royalty interest.

Texas—Two cents or 2 percent, whichever is higher.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Two percent of gross value at well and 3⅛ of 1c per barrel.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

* All gravities—flat rate.
° Signal Hill 26 gravity.

CALIFORNIA OIL PRICES

(All gravities above those quoted take highest prices of that field Effective December 6, 1935)

Gravity	Signal Hill	Seal Beach Alamitos Heights	Huntington Beach	Inglewood	Playa Del Rey	Olinda Brea Canyon	Athens Rosecrans Domingues	Elwood Terrace	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River Round Mountain	Mountain View	Midway Sunset Elk Hills Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge
14-18.9	$.75	$.74	$.73	$.74	$.75	$.71	....	....	$.75	$.71	$.71	$.72	$.73	....	$.65	...	$.65	$.65	$.65	....
19-19.9	.75	.74	.74	.77	.76	.75	....	....	.77	.71	.71	.72	.73	....	.65	$.65	.66	.68	.66	.65
20-20.9	.76	.74	.76	.79	.79	.77	....	....	.78	.71	.73	.72	.73	....	....	.65	.68	.71	.67	.65
21-21.9	.78	.74	.78	.81	.81	.79	....	....	.80	.71	.75	.72	.75	$.73	....	.65	.71	.73	.69	.65
22-22.9	.80	.74	.80	.82	.84	.81	....	....	.81	.73	.77	.72	.77	.73	....	.66	.74	.75	.71	.67
23-23.9	.82	.77	.82	.84	.86	.83	$.79	....	.83	.75	.79	.74	.79	.73	....	.67	.77	.77	.73	.69
24-24.9	.84	.80	.84	.86	.88	.84	.81	F.O.B. Ship	.84	.77	.80	.76	.81	.75	....	.69	.80	.80	.75	.71
25-25.9	.86	.82	.86	.87	.91	.86	.83		.86	.79	....	.78	.82	.77	....	.71	.83	.82	.77	.73
26-26.9	.88	.85	.88	.89	.93	.88	.86		.88	.81	....	.80	.84	.79	....	.73	.86	.85	...	...
27-27.9	.90	.88	.90	.91	...	.90	.88		...	.83	....	.82	.86	.82	....	.76	.88	.88	...	...
28-28.9	.92	.90	.91	.92	...	.92	.90		...	.85	....	.83	.88	.84	....	.78	.91	.90	...	...
29-29.9	.94	.93	.93	.94		....	.93		...	.87	....	.85	.90	.86	....	.80	.94	.92	...	...
30-30.9	.96	.95	.95	.95		....	.95		...	...	...	.87	.92	.89	....	.83	.97	.94	...	...
31-31.9	...	....	...	.97		....	.97		Kettleman Hills			.89	.94	.91	....	.85	.99	...	...	...
32-32.9	...	....	...	.99		....	1.00	....				.91	.96	.93	....	.87	1.02	...	...	...
33-33.9	...	....	...	...		....	....	$.99		$.95		.93	.98	.95	....	.89	1.04	...	...	...
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35-35.9	...	....	...	...		....	....	1.03	...	.99	....	.97	...	1.00	....	...	....	....	....	....
36-36.9	...	....	...	...		....	....	1.05	...	1.02	....	.99	...	1.02	....	...	....	....	....	....
37-37.9	...	....	...	...		....	....	1.07	...	1.05	....	1.00	...	1.04	....	...	....	....	....	....
38-38.9	...	....	...	...	F. O. B. Pipe Line	....	....	....	...	1.08	....	1.03	...	1.07	....	...	....	....	....	....
39-39.9	...	....	...	...		....	....	....	...	1.11	....	1.05	...	....	....	...	....	....	....	....
40-40.9	...	....	...	...		....	....	....	...	....	....	1.07	...	....	....	...	....	....	....	....

MEN IN THE INDUSTRY'S NEWS

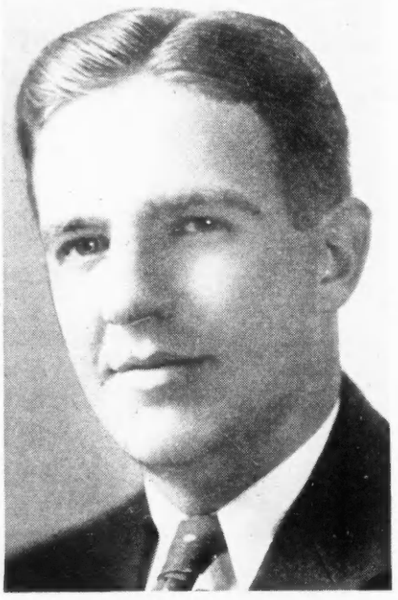
CALIFORNIA OIL AND GAS ASSOCIATION ELECTS NEW OFFICERS AND DIRECTORS FOR 1936

E. J. NICKLOS, president of Nicklos Drilling Company, Houston, is on a combination business and pleasure trip to New York City. He is accompanied by Mrs. Nicklos and they plan to spend a short time in New Haven, where their son is attending Yale University.

PAUL TORREY, consulting engineer of Bradford, Pennsylvania, has been retained to supervise Diamond drilling and laboratory testing of cores taken from producing properties of Dominion Petroleum Company, Ltd., in Middlesex County, Ontario, Canada.

WALTER FERGUSON resigned as executive vice president of the Kansas-Oklahoma division of the Mid-Continent Oil and Gas Association recently and had his resignation accepted in the meeting of that organization January 21, at Tulsa. His duties will be taken over by Robert Kerr, president of the Oklahoma City division of the association. W. J. Holloway, counsel for the division and former governor of Oklahoma, may also resign, due to budget requirements of the association.

K. A. COVELL, production engineer in the southwestern division of Pure Oil Company, became assistant manager of production in that division as of January 1, 1936, according to an announcement made recently by J. D. McNutt, division manager. Covell formerly was production engineer for Indian Territory Illuminating Oil Company. He was transferred a few months ago from headquarters in Chicago to Tulsa.



K. A. COVELL

A. L. WEIL IS SELECTED TO BE PRESIDENT OF ASSOCIATION

A. L. WEIL

A. L. WEIL, president of General Petroleum Corporation of California, was elected president of the California Oil & Gas Association in the recent annual election. Weil replaces C. S. Jones, who has served as president for the past two years.

Ralph B. Lloyd and L. P. St. Clair, incumbent vice-presidents, and H. L. Westbrook, incumbent treasurer, were re-elected. Lloyd is president of Lloyd Corporation, St. Clair is president of Union Oil Company of California, and Westbrook, who has been treasurer of the Association since 1925, is vice-president of Belridge Oil Company.

F. E. Foster continues as managing director, and D. S. Kilgour continues as assistant manager.

Directors elected for 1936 include: S. Belither, president, Shell Oil Company; R. A. Broomfield, president, Barnsdall Oil Company; R. E. Collom, vice-president, Continental Oil Company; J. A. Crawford, president, Republic Supply Company of California; Emil Ducommun, vice-president, Ducommun Corporation; E. S. Dulin, president, Byron Jackson Company; E. B. Gilmore, president, Gilmore Oil Company; Oscar R. Howard, oil operator; William F. Humphrey, president, Associated Oil Company; C. S. Jones, president, Rio Grande Oil Company; K. R. Kingsbury, president, Standard Oil Company of California; W. H. Reid, president, Hancock Oil Company; W. C. McDuffie, receiver, Richfield Oil Company of California; Alexander B. Macbeth, president, Southern California Gas Company; A. C. Mattei, executive vice-president, Honolulu Oil Corporation, Ltd.; A. W. Taylor, vice-president, Western Oil & Refining Company; C. E. Olmsted, president, The Texas Company (California); William Reinhardt, manager, Kettleman North Dome Association; F. C. Ripley, manager, Chanslor-Canfield Midway Oil Company.

R. E. WITTY, member of the land department in the Fort Worth division office of The Texas Company, has been transferred to Midland, Texas, headquarters for the company's lease activities in West Texas and Southeastern New Mexico.

ROSCOE V. EVRIDGE, an official of Gem Oil Company, Dallas, has resigned to become associated with C. J. Davidson, Fort Worth drilling contractor and operator, and others in forming Cascade Petroleum Company. Drilling contracts by the group will be handled by Davidson Drilling Company.

FRED HOLMES, Oklahoma Natural Gas Company, is the new president of the Tulsa Junior Chamber of Commerce. Holmes is superintendent of the storage and material department for the gas company.

J. C. "JACK" VICKERS, president of Vickers Petroleum Company, Wichita, Kansas, is visiting in California.

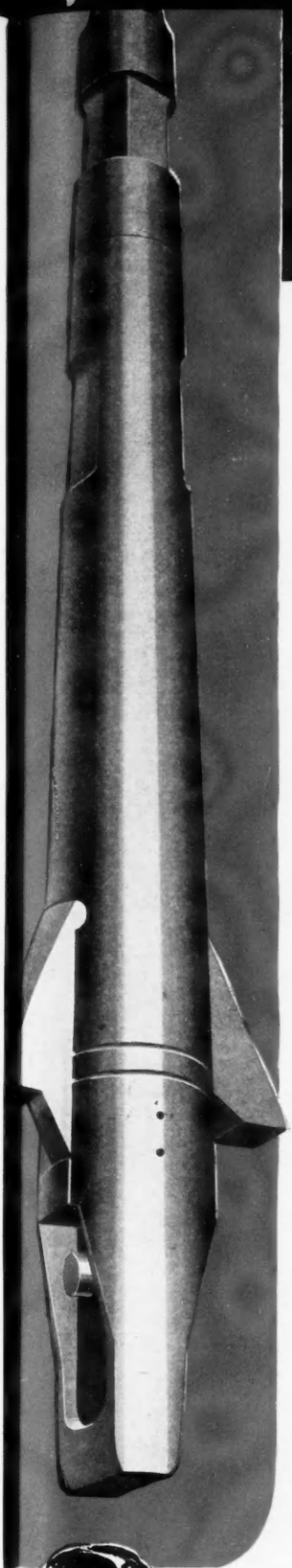
E. D. LUMAN, division geologist for Atlantic Oil Producing Company with headquarters in Tulsa, and W. E. Irwin, purchasing agent and auditor with headquarters in Dallas, have completed an inspection trip through the areas in which the company owns production in Kansas and Oklahoma.

WILLIAM H. CORREA, vice president of Standard Oil Company of New York, and an official of the Socony-Vacuum Oil Company, Incorporated, and Elizabeth Baird Pope of Detroit, were married January 15 at the First Presbyterian Church, on Fifth Avenue, New York.

R. L. HUNTER, who at one time or another has superintended production work in every one of the chief producing areas of Anglo-Iranian Oil Company in Iran and in Iraq, recently retired.

A biographical sketch in "The Naft," company house organ, has the following to say about him:

"Mr. Hunter joined the staff in December, 1920, when he went to Iran as assistant to the fields manager. At Masjid-i-Sulaiman he was in charge of the fields production department for part of the time and was also, at different periods, area superintendent of the Naftun and Naftak areas. At Haft Kel he was likewise for a time area superintendent, but in December, 1932, was promoted



NEW and IMPROVED EQUIPMENT FOR YOUR 1936 DEVELOPMENT WORK

The Bridgeport Machine Company's untiring research for the improvement of its products and services is a significant part of its policy. As conditions improve and methods change Bridgeport is abreast of the times with new products and more valuable services. Here are a few of the new items now available, each thoroughly field proven.

THE ROE "PAY" UNDERDIGGER

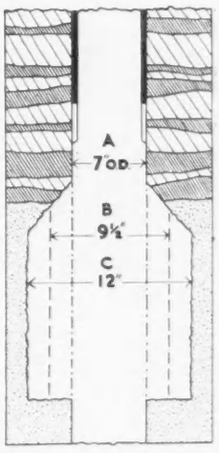
Here is a new patented Cable Tool (field proven for over two years) effectively used to increase production in new and old rotary or cable tool drilled wells.

Old production has been increased up to 200% and more by removing paraffin, gypsum, mud and other obstructions from the face of the "pay" formation by underdigging wells that have produced for many years.

Initial production of new wells is increased by removing cement, rotary mud, etc., from the "pay"; and by enlarging the hole in the "pay" formation before acidization.

Underdigging of the hole may be started at any point below the casing and the hole may be enlarged as much as more than double its drilled diameter or as little as one inch.

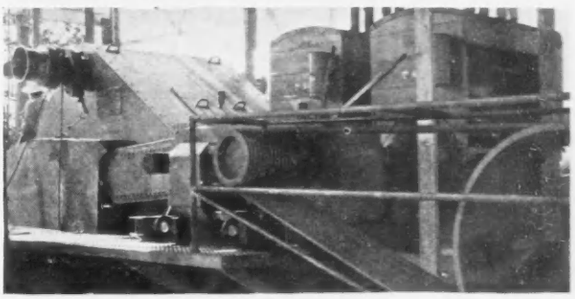
Wells that have been "shot" one or more times have been materially improved by underdigging with the Roe "Pay" Underdigger.



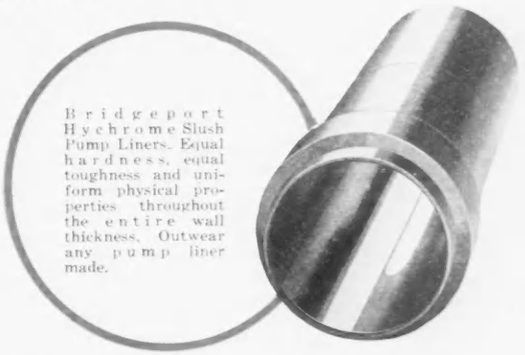
Right: Illustrating what the Roe "Pay" Underdigger does. At the first run of the tool the "pay" formation was enlarged from 7 inches to 9½ inches. At the next run the "pay" was enlarged to 12 inches. Smaller enlargements, an inch at a time, may be made if desired.

Tools now available for use in all sizes of pipe from 4⅞" to 8¼"

FOR SALE OR RENT



New Portable Mechanical Rotary Drilling Rig with Engines, Pumps, Clutches, Countershafts, Substructures, etc. For complete specifications on this newest type Rotary Drilling Equipment ask for Bulletin B-100.



Bridgeport Hychrome Slush Pump Liners. Equal hardness, equal toughness and uniform physical properties throughout the entire wall thickness. Outwear any pump liner made.

Celotex, a new fibrous mud product used to restore lost circulation where cavities and porous formations are encountered. More economical than any other material used for the purpose—a few sacks will suffice on the average job.

For prices and complete information on any Bridgeport product, phone our nearest Store, Office or Representative "station to station" day or night, from anywhere.

BRIDGEPORT MACHINE COMPANY

MANUFACTURERS DISTRIBUTORS

OIL DRILLING-FISHING AND PRODUCTION EQUIPMENT

GENERAL OFFICE AND WORKS: WICHITA, KANSAS

The "Bridgeport Bulletin," published on the first and fifteenth of each month, contains valuable information and details on these and other new Bridgeport products and services. If you are not receiving it send your name and address. No cost—no obligation.

Distributing Branches and Service Offices: Houston, Dallas, Tulsa, Oklahoma City and Wichita; and other Branch Stores and Warehouses in the active Mid-Continent and Gulf Coast oil fields

fields superintendent of the Haft Kel area, and subsequently he occupied a similar post at Naft Khaneh and Naft-i-Shah.

"At Masjuid-i-Sulaiman Mr. Hunter will always be remembered with respect for the courage he displayed on an occasion in 1923, when, owing to the carelessness of a driller, Well B92 went 'wild.' At great personal risk he approached the well through an atmosphere heavily laden with gas and succeeded in closing the main valve, thus bringing the well under control."

CLYLE R. SMITH, assistant to the chief scout for Magnolia Petroleum Company, Dallas, has been transferred to the Midland, Texas, district office of Magnolia Pipe Line Company, and will be succeeded at Dallas by Marvin Jones.

HAROLD J. WILKINS, treasurer and secretary of Compania d Gas y Combustible Imperio, S. A. (subsidiary of Cities Service Company), has returned to Tampico, Mexico, after a trip to Detroit, Chicago and New Orleans.

C. T. EVERETT, a vice president of the First National Bank and Trust Company of Muskogee for the past five years, and prior to that an officer of the First National Bank and Trust Company of Tulsa, has been elected a vice president of the National Bank of Tulsa. This was the only change made in the official personnel of the institution.

MILTON R. GRIFFIN and Richard M. Melton, both of Glennpool Station, have been awarded 10-year service buttons by Oklahoma Pipe Line Company.

VIVENTE R. CASARES has been appointed a director of Yacimientos Petrolieros Fiscales, the Argentine government organization for exploration and exploitation of oil fields.

LLOYD SUMMERS, former employee of Barnsdall Oil Company and now gas lift engineer in the Maracaibo Basin, Venezuela, for Lago Petroleum Company, was a recent Tulsa visitor.

THAD WYNN, who has been active in lease and scouting work in Southern Louisiana for nearly 10 years, has recently gone with Sinclair Prairie Oil & Gas Company as a scout in the Louisiana Gulf Coast.

E. W. K. ANDRAU was the featured speaker at the regular weekly meeting of the Houston Geological Society. He discussed "Electric Log Correlations."

DIED:

FRANK DONAHUE, 34-year-old oil operator of Ponca City, Oklahoma, was found dead in his room at a Houston hotel January 22. His death apparently was due to natural causes.

CLARK KENDRICK, 58 years old, pioneer independent oil producer, died at his home in Tulsa January 20, following several months of illness which had not been considered serious enough to confine him. Death came as the result of a cerebral hemorrhage. Kendrick was born in Atlanta, Georgia, moved from there to Philadelphia when 12 years of age and after his schooling, became affiliated with the Mott Iron Works. Later he became general manager of that concern. He came to Tulsa in May, 1918, and shortly thereafter organized the Kendrick Oil Company.

W. D. CONWAY, 50, veteran oil producer in the Ranger, Texas, district, died January 19 at a Dallas hospital. He had been active in Texas and Oklahoma fields for 35 years. Funeral services were held January 21 at Ranger, where he had resided since 1919.

G. C. (Cleve) PHILLIPS, 43, former scout for The California Company in West Texas, died January 21 at his home in San Angelo. He gave up scouting several years ago because of bad health, having worked for Marland Oil Company during the early stages of development of West Texas fields, and later with Continental Oil Company. He was one of the organizers of the West Texas Oil Scout's Association. Survivors include his wife and two children.

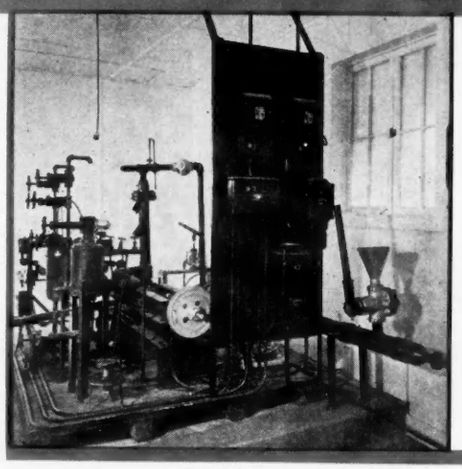
EMILE MIGUET, director and general manager of Compagnie Francaise de Raffinage, died suddenly after a short illness December 21. Monsieur Miguet was 52 years of age at the time of his death.

LOUIS TRONCHERE, managing director of Compagnie Francaise des Petroles and director of Compagnie Francaise de Raffinage, died December 1, 1935, in Paris.

WE *Torture* ROTARY MUDS
TO MAKE *your* DRILLING SAFER

PUNISHING FILTER PRESSES
REPRODUCE BOTTOM-HOLE
TEMPERATURES & PRESSURES

Results prove **BAROID** *and* **AQUAGEL** *far superior to ordinary muds* ★ ★ ★ ★



A MUD may be perfect—out of hole! But its usefulness below ground is often a different story. Bottom-hole temperature and pressure play strange tricks on colloidal qualities, viscosities and gel-strengths.

Specially designed Filter Presses in our laboratories enable us to circulate drilling mud over cores under exactly the same conditions of temperature and pressure as those encountered in either deep or shallow wells. A drilling mud *must be right* to pass these exacting tests. Results of these laboratory tests enable BAROID Service Engineers to more efficiently diagnose mud troubles encountered by operators.

In these punishing Filter Presses, muds conditioned with BAROID and AQUAGEL have proved themselves far superior as drilling fluids. This is *one* reason for their continued use by experienced operators the world over.

BAROID PRODUCTS

BAROID . . . . *Extra-Heavy Colloidal Drilling Mud*
AQUAGEL . . . *Trouble-Proof Colloidal Drilling Mud*
STABILITE . . . *An Improved Chemical Mud Thinner*
BAROCO . . *Economical, Salt Water-Resisting Drilling Clay*
(Sold in Mid-Continent and Gulf Coast only)

STOCKS CARRIED and SERVICE MEN AVAILABLE in all active oil fields.

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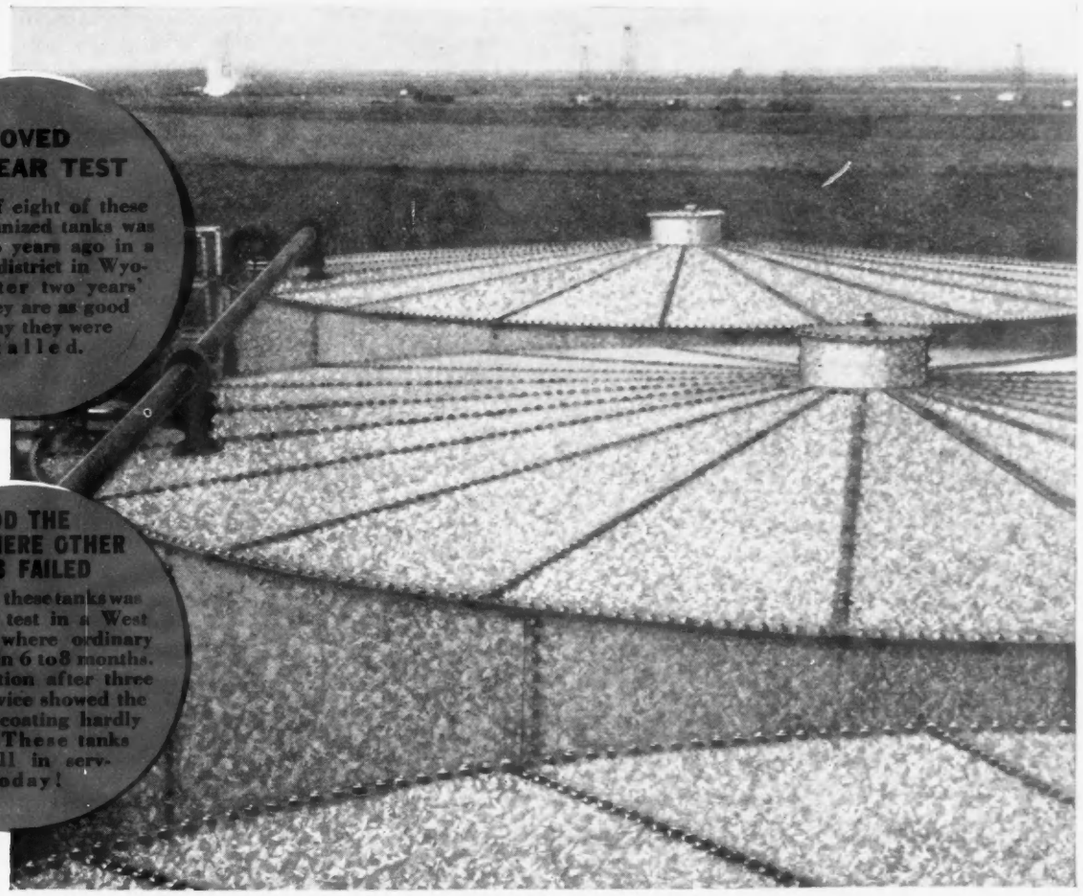
NATIONAL PIGMENTS & CHEMICAL CO., ST. LOUIS


PROVED
IN 2-YEAR TEST
A battery of eight of these special galvanized tanks was installed two years ago in a sour crude district in Wyoming. After two years' service they are as good as the day they were installed.
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GAFF WHERE OTHER
TANKS FAILED
A battery of these tanks was put in as a test in a West Texas area where ordinary tanks failed in 6 to 8 months. An examination after three years of service showed the galvanized coating hardly affected. These tanks are still in service today!

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Your SOUR CRUDE Problem . . .

COLUMBIAN Special Galvanized Bolted Steel Tanks

At last the problem of sour crude storage is solved! Columbian Special Galvanized Tanks have been tested and proved in actual service, until today there is no question but what these tanks will stand up under sour crude storage in any district.

The unusually satisfactory results Columbian Special Galvanized Tanks assure are the result of the following:

—special exclusive process used in preparation of the metal sheets.
—special heavy coating of galvanizing.
—special fabrication which does not destroy or render inefficient the galvanized coating.

Columbian Special Galvanized Tanks are built to A.P.I. specifications. The sheets are of selected base metal. The exclusive galvanizing process applies the heavy coating of galvanizing spelter in such a manner as to guarantee tight adhesion.

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WORLD DEVELOPMENTS and TECHNOLOGY

Edited by
WM. V. GROSS, Associate Editor

Foreign Production

OTHER NATIONS PRODUCING GREATER PERCENT OF OIL

IF the total cumulative production of the world through 1935, amounting to 27,298,219,012 barrels, nations outside of the United States had produced 8,827,358,843 barrels, or 36 percent. Of the world's total production in 1935, amounting to 1,662,784,000 barrels, foreign countries produced 648,485,760 barrels, or about 39 percent, according to figures compiled by THE OIL WEEKLY.

These statistics may be taken as fairly representative of the trend in world production since 1923, when nations outside of the United States of America accounted for only 28 percent of the world's production. In that year the total oil recovered throughout the world amounted to 1,015,736,000 barrels of 42 U. S. gallons each, and the share of foreign nations amounted to only 284,406,080 barrels.

It is rather remarkable that while world production has only increased from 1,015,736,000 barrels in 1923 to 1,662,784,000 barrels in 1935, foreign production in the same period has increased from 284,406,080 barrels in 1923 to 648,475,760 barrels in 1935, or roughly five times as rapidly in terms of percentage.

A possibility that this trend may continue is indicated by rather widespread wildcat, or exploration, activities abroad, coupled with an ever increasing tendency on the part of foreign nations to do their own refining. We may assume with a fair degree of certainty that the trend in wildcatting will continue for some time, for the simple reason that 1935 was without an important discovery, so far as market factor reserves are concerned. More foreign reserves are needed. As to the trend in refining, we may assume a continuation of this, too, as increased foreign production alone would warrant additional construction, to say nothing of that type of construction made necessary by constant changes in refining technique.

Remove the current contribution to refineries of the fields in the Gulf Coast regions of Texas and Louisiana and you would have a situation comparable to that, in world petroleum markets, which would be occasioned by the removal of the supply coming from fields of the East Indies. The Gulf Coast region, however, has been the scene of more than enough discoveries in 1935 to assure its role in world petroleum markets for 17 years to come. The East Indies, on the other hand, not only has suffered from a lack of new fields of importance in 1935, but has been subjected to a steady decline for several months. The same may be said of India. With the apparent weakening of these two parts of the earth, so far as production is considered, effort must continue to be made to find new oil to take the place of the rapidly diminishing supply of the old. This is another contributing factor to the belief that prospecting abroad must continue.

Tables showing yearly production figures on all nations of the world may be found elsewhere in this issue of THE OIL WEEKLY.

MEXICAN DECISION

Americans alarmed over Labor Board attitude

American and other petroleum and financial interests in Mexico City are following with some concern developments in a recent decision of the Mexican Federal Board of Conciliation and Arbitration against the Pierce Oil Company, S.A., as a result of a claim filed against the company by a filling station operator. It is pointed out that should the board's decision be sustained by higher courts, a costly precedent of far-reaching scope will be set affecting the whole operation system in Mexico — producing, refining and marketing.

The plaintiff is operating on a commodatum and a commission contract entered into with the company. This kind of relationship between oil companies and station operators is in use generally throughout the country, THE OIL WEEKLY is informed. In this case, the Pierce Oil Company (Sinclair interests) cancelled its agreement with the commodatary (operator) because of dissatisfaction. The operator, thereupon, retaliated by filing suit before the federal labor board demanding three months salary, based on the station's gross income, remuneration for extra hours, and payment of an alleged initial investment made by him to his predecessor. He also asked for salary while the suit is pending. The total amount of his claims was around 13,000 pesos, though the board awarded him nearly 25,000 pesos.

The company then filed a demurrer, in answering the claim, and contended that the labor board was incompetent —without jurisdiction—to sit in the case. The company maintained that the point at issue was one governed by civil and commercial codes and not by the federal labor law of Mexico. Counsel for the company argued that to hold the company responsible for acts over which it has no control and for compensation over which it also has no jurisdiction is an injustice and, furthermore, is a positive determent to the development and activities of the distributor. It is also pointed out that the question is not a matter of difference between views of a labor union and employer or between any governmental department and an oil company. Plaintiff in the case, it was stated, is neither a member of any labor union nor of any governmental agency, but claims indemnities provided for in the labor code in favor of contracted labor. In this category the company's attorneys argued that a commodatum contract does not pertain.

While the present case does not involve a large amount, it is pointed out it would, if accepted, establish a precedent for others that might follow and would run into huge sums imposed on the companies operating in Mexico. This case, it is said, not only affects the status of 650 filling stations in the country, but the board's action is also viewed as having a direct bearing on future relationship of any person, operating on a commission, and his principal or representative for whom he is selling goods. It is also maintained that under the decision liberty of operation now enjoyed by any commission merchant, in that all his profits are his and his manner of working of his own choice, is affected.

Under the terms of the contracts with filling station operators, the companies ordinarily hand over to the latter a completely equipped service station. This remains either owned or controlled by the company. The necessary equipment in all cases is supplied to the operator or commission agent for the safe and convenient dispensing of gasoline, lubricants, etc. As part of the bargain, the companies are required to maintain their stations in repair and to extend all facilities towards furnishing the public with service. In return they expect from the commodatary or lessees such sales as are proportionate with the investment in question, the amount of course be-

ing contingent on advantages of locality, etc.

These contracts have been considered up to the present as individual agreements between the two parties; nor have they been subject to the provisions of the labor laws of Mexico. The recent decision of the board affirmed that the contract was not, in fact, a commodatum agreement, but that it had all the features of a labor contract.

The labor board's intervention in the case, instead of allowing it to follow the usual litigation procedure under law, is viewed by some observers as one likely to have financial effect to the benefit or otherwise of workers in Mexico due to the uncertainties now involved, and the possible influence on prospective investors.

TRINIDAD

1935 output shows big gain over 1934

Upward trend of production in Trinidad, which began in October, continued through December, when the island produced more oil than it had in any previous month of the year, according to official figures received by THE OIL WEEKLY, January 21.

December's recovery of 1,086,375 imperial barrels gave Trinidad at total recovery of 11,678,637 imperial barrels for the year, or 12,012,312.3 United States barrels of 42 gallons each, representing an increase of 1,112,312 United States barrels over the 1934 production figure of 10,900,000 United States barrels.

Production in 1935 in Trinidad by months (figures in imperial barrels) follows:

Month	Total Production
January	915,220
February	843,619
March	919,848
April	909,946
May	953,108
June	972,904
July	988,341
August	1,003,382
September	992,445
October	1,015,492
November	1,078,957
December	1,086,375
Total, 1935	11,678,637

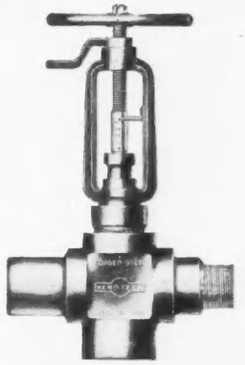
NICARAGUA WORK

Miguel Escoto, recipient of a large concession from the government in Nicaragua, has about 2½ years remaining in which to complete preliminary exploration work. Escoto is indebted to expend a total of 25,000 cordobas, or about $22,727 U. S. currency, on the concession.

Terms of the concession provide that Escoto shall turn over from seven to 10 percent of any production found to the government of Nicaragua and that the concession or any part thereof may not be assigned to any foreign government. However, it may be transferred to any individual or company without regard to nationality.

In answer to a query from THE OIL WEEKLY, it is learned that Escoto is believed to be in the United States endeavoring to interest American capital in the interprise.

CONVENIENT . . .
ACCURATE . . .
DEPENDABLE . . .



KEROTEST

Adjustable Control Chokes

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Kerotest Control Chokes are extremely accurate in determining best rates of production, as well as determining the proper size positive choke for exact flow control.

When flowing "with the needle" on high pressure gas wells, they will reduce freezing in your lines very much under ordinary conditions.

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KEROTEST Chokes are made in both BOLTED BONNET AND SCREWED BONNET TYPES . . . also with ALL MALE CONNECTIONS, OR ALL FEMALE CONNECTIONS, or with COMBINATIONS OF BOTH.

The Type 2043, Size 3" illustrated above is the standard all male design, and has a hub regularly machined on the back side for attachment of clamps.

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KEROTEST

Kerotest Manufacturing Co.
Pittsburgh, Pa., U. S. A.

GRANT NOT MADE

Funds for Australian oil exploration work certain

AN authoritative source in Melbourne, Victoria, Australia, advises that the Commonwealth government has not made its grant of 5000 pounds to be spent in exploring for oil in Australia, although the state government has given definite assurance of its intention of putting up an equal amount. It is believed, though, that the matter of grants will be finalized directly the act before Parliament is passed and comes into effect.

The above information was developed following a report relative to the development of oil industry in the State of Victoria and in particular in the Gippsland district.

As a matter of general interest, the search for oil in Victoria has been going on for a number of years. Each year has seen fresh capital introduced into the field, or efforts made by existing companies to stimulate additional interest. Of late years, the Australian public's speculating interest has turned to gold companies and oil companies have suffered from a lack of support in consequence.

The minister of mines in the new state government recently made an exhaustive survey of the state's existing oil fields, or areas believed to be oil or petroliferous bearing. This survey resulted in his introducing a bill in the state parliament authorizing the government to conduct a campaign of boring in the areas at Lakes Entrance. The act is still being discussed.

Regarding present developments, THE OIL WEEKLY'S source at Melbourne states: "At Lakes Entrance there are three active companies in operation. One company, which appears to be well financed, has sunk bores to 2300 feet in alternating lignite and sand, while another company has sunk a well to about 2000 feet. Fifteen miles to the west another company is working persistently and bores are down some 1500 feet, but with very little encouraging prospects to date. Near Sale, in the Gippsland district, another company is working, but so far without any success.

"The oil brought to the surface in Victoria development is found to be mixed with mineral water. It is shipped to Melbourne in drums for treatment, but finds practically no market because of its asphaltic base."

BUILDING TANKS

Plans of the Chosen Sekiyu Kaisha (Chosen Petroleum Oil Company), for 1936, contemplate construction of three tanks of 18,000 tons capacity and 79 smaller ones, to be completed by March, 1936.

Chosen Petroleum Oil Company is reported to have awarded the contract for the above work to Ishida Iron Works of Japan.

GAS FOR MOTOR FUEL

Experiments in the utilization of ordinary illuminating gas for fuel for motor buses are reported from Berlin to have become so successful that the city has authorized the use of this fuel in 22 motor buses of one line running through the city. According to C. T. Zawadzki, Berlin, tests have shown that two cubic meters of gas are able to replace one liter of gasoline, thus resulting in a reduction of the operating charges.

EARNINGS

After depreciation, Commonwealth Oil Refineries showed a net loss of 58,168 pounds for the fiscal year ending June 30, 1935. This compares with a net loss of 85,476 pounds for the previous fiscal year.

Outlook for Commonweal Oil Refineries is better during the first half of 1936, due to the fact that a new motor spirit, known as "C. O. R. Benzol" has been introduced and apparently is being well received in Australia.

During the year the organization put into commission an all-welded steel barge for oil bunkering of steamers. The organization, a major portion of the stock of which is owned by the Commonwealth government, has constructed additional storage at Melbourne and Sydney recently.

ADRIAN CORBETT, director of Anglo-Saxon Petroleum Company, Ltd., London, recently was able to return to his office after having been laid up for a spell as result of an accident suffered while he was hunting.

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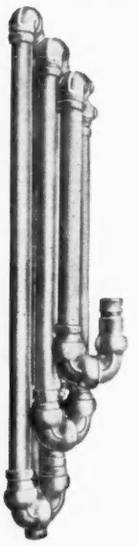
Chiksan 4" All Steel Rotary Hoses are being used on the deepest wells at Kettleman Hills and other high pressure fields throughout the world. Don't gamble with ordinary hose. When you need high pressures to keep circulation, protect your workmen and your well with the positive safety factor of Chiksan Steel Hose.



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CHIKSAN OIL TOOL CO. LIMITED

FULLERTON, CALIFORNIA — GULF ENGINEERS INC., HOUSTON, TEXAS

Field Development and Outlook

SOUTH TEXAS

[*Continued from page 66*]

In San Patricio County the adjoining county to the north, four strikes during the year set hot pace for development. Three are in the Plymouth field and are in the Frio formation. The fourth is the Taft field, producing from the Greta or Heterostegina sand.

Refugio County's important, but not publicized field is Tomoconnor, where 29 producers have been completed in as many starts.

Ulacedo, Victoria County, another 1935 discovery, offers possibilities of being materially extended. The acreage to the southwest of production is fairly well controlled and most of the work is in offsets on smaller tracts. The new year should see additional exploration work and possibly a material extension.

Amerada Petroleum Corporation's development in the Pearsall district of Frio County, is due for some spectacular happenings during the year. The company has two rigs in the area and likely will keep them busy outlining the Austin chalk, Buda lime and Navarro sand production. Due to the large blocks on long term commercial leases, little activity can be expected generally from other companies, although several deep wells may be drilled.

Many Barrels Uncovered by West Texas 1935 Discoveries

By H. H. KING, Staff Writar

CALCULATED in terms of barrels and productive acreage, the new crude reserves uncovered in the Permian Basin of West Texas during the past year affords the district a high rating among the leading contributors to the nation's petroleum supplies. New strikes in this sour oil belt accounted for approximately 300,000,000 barrels of potential supplies, while extensions given older fields materially enlarges the total.

Establishment of the Goldsmith field, Ector County, as a major source of prolific oil production, and the discovery of the Keystone field, Winkler County, provided the outstanding developments in the Permian Basin in 1935. These two areas will likely cover an aggregate of 15,000 acres and yield approximately 250,000,000 barrels of crude. Other important operations included the extension of the Permian lime zone about 42 miles north into Yoakum County with assurance of a commercial oil producer, but completion has been held in abeyance owing to lease title litigation.

Deep exploratory work carried on at intervals since the completion of the first Ordovician lime producer in the Big Lake field registered its first strike outside the latter area when a projected 10,000-foot test on the Sand Hills structure, western Crane County, definitely proved capable of commercial oil production from the Ordovician near the 6300-foot level. However, the well was still in process of completion at the close of the year.

Development carried on in the Keystone field, Winkler County, which recorded its first oil producer in July from dolomite lime at 3185-3520 feet, forecasts approximately 5000 productive acres, with crude yield per acre tentatively set at 10,000 barrels.

Ector County Has Good Year

Ector County was the largest contributor of new crude reserves. The Goldsmith area recorded its first successful oil completion in June when Gulf Production Company completed a 2000-barrel well from dolomite lime at 4170-4175 feet in the north central portion of its 19,840-acre Goldsmith-Scharbauer leasehold. This strike is about 3¾ miles southeast of Landreth Production Corporation's Scharbauer 1 which was brought in as a small oil producer in 1934 from the same horizon, but heavy gas production broke in below the casing seat and the well was not placed on production. The latter completed a small well about 1¾ miles to the northeast in 1935. An active drilling program will be waged in the field during 1936, and operators are in accord with a forecast of 20,000 barrels average recovery per acre under normal well spacing. The structure affords in excess of 10,000 productive acres, with possibilities of this estimate being enlarged.

Sun Oil Company's O. B. Holt 1, located near north line of Ector County and about 2½ miles northwest of the North Cowden field, is listed as a new discovery in making a small flowing producer from lime at 4350 feet. However, later developments may prove the area to be an extension of the nearby field. A similar condition prevails with Barnsdall Oil Company and York & Harper, Inc.'s Foster 1, located about two miles northeast of the South Cowden field and about 4½ miles southeast of a single well area uncovered in 1934 by Landreth Production Corporation on the J. L. Johnson land.

Preliminary estimates on the probable producing acreage surrounding Web-Ray Oil Company's Cordova Union 1, which established a new field in southern Upton County in November with an initial output of 309 barrels on pump after using acid in lime at 2061-2125 feet, place the total at approximately 700 acres. Average recovery of 12,500 barrels per acre is reasonable for this lime zone under normal well spacing.

Yoakum County wildcat drilled by Honolulu Oil Corporation and C. J. Davidson on the L. P. Bennett ranch showed for a commercial producer after penetrating about two feet into the lime section in drilling to 5090 feet in September. Outside litigation developed, and the owners suspended operations after landing casing. Test for production will be made in February. This well promises to advance the productive limits of the Permian Basin about 42 miles north of the Means field, Andrews County. More tests are proposed for the immediate area, and if big wells occur there will be a major drilling program undertaken as soon as a pipe line outlet becomes assured. Territory between this Yoakum County potential producer and the Means field is looked upon as being a favorable trend for production, with excellent prospects for production con-

ceded to the Seminole structure, Gaines County. A wildcat launched late in 1935 several miles northwest of Seminole uncovered high pressure gas production near the 3000-foot level, resulting in the loss of tools and a prolonged fishing job. Recorded structural relief and the presence of several gas zones above the big lime makes this area the best bet for a new oil strike in 1936 in the Basin.

Ordovician Wildcat Well

Search for production in the Ordovician gained new life when Gulf Production Company's W. N. Waddell et al 1, located on the northwest nose of the Sand Hills structure, Crane County, proved good for more than 100 barrels oil daily by swabbing from the Simpson member of the deep lime at 5980-6316 feet after plugging off sulphur water at 6450 feet. Heavy shot of nitro used in the lime at 6186-6300 feet aggravated trouble with cavings without any appreciable boost in the oil yield. Best oil porosity was found in sand body comprising the top section of the Simpson, and a shot in this zone is expected to be beneficial. The Sand Hills area, with two small flowing wells completed in the Permian at 4200 feet, is said to be the largest structure in West Texas.

Loffland Brothers, John I. Moore et al's McDowell 1, Glasscock County Ordovician test, attracted attention through having proved capable of occasional heads of high gravity oil after using acid in lower Pennsylvanian at a total depth of 10,115 feet. It is not considered a commercial producer, but the owners, operating on a unitized basis, have appropriated funds to coninue drilling for a limited period. Schleicher County broke into the production column through the completion of John M. Cooper et al's Bert Page 1 in Pennsylvanian lime at 5399-5540 feet rated at 13,800,000 cubic feet of sweet gas daily.

Exploration work carried on in the north portion of the Waddell field, Crane County, located a prolific oil area within the past year, with Magnolia Petroleum Company and Gulf Production Company the only participants. The field was discovered by the latter concern in August, 1927, and no importance was attached to the area until big wells were uncovered in the north extension. Magnolia Petroleum Company has completed two wells that rate the highest initial flow outside the Yates field.

Important extensions were given the Grand Falls district, Ward County, within the past year to assure continued active drilling. The North Cowden field, Ector County, was materially enlarged through series of extensions, while similar conditions prevailed in the Sayre field, Winkler County. Productive acreage in the McCamey district was materially increased by successful completions on the east side of the structure.

West Texas is destined to receive more exploratory tests and routine drilling in established oil producing areas during the current year than any single year since the advent of the East Texas field. Crude purchasing companies are again eager to fall back on sour oil in supplying their enlarged demand, thus affording a market for all oil produced in accordance with proration restrictions and within reach of pipe lines.

East Texas Gets One New Field During the Past Year

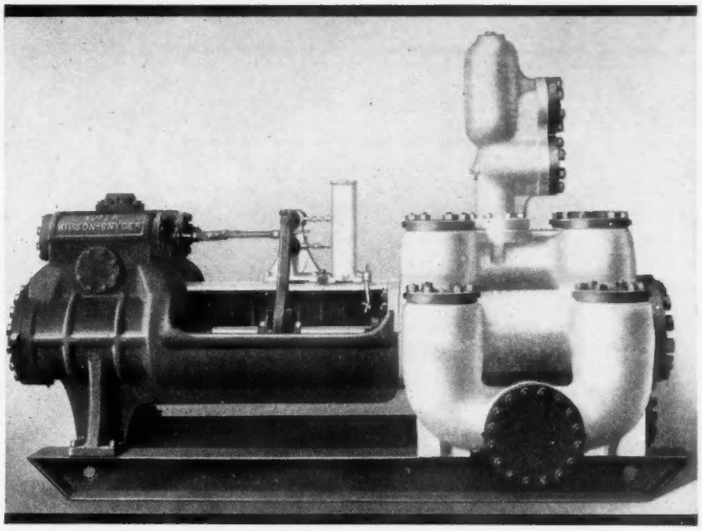
ENLARGEMENT of the productive limits of the East Texas field through the drilling of doubtful locations near the edges of the giant structure added approximately 10,000 acres, or the equivalent of a major field in area, during 1935. Intensive exploration work carried on during the year in other sections of the Woodbine sand belt netted one new field and proved the Cayuga field capable of producing natural gas and distillate from the Lower Glen Rose member of the Trinity series. These two discoveries were made in Anderson County. The Rodessa field of North Louisiana was extended into Texas, but this is discussed elsewhere.

Producing territory in the East Texas field was swelled to more than 126,000 acres towards the close of 1935. Most important extensions occurred on the east flank of the structure, and along the northwest edge in Upshur County. Independents were responsible for nearly all the extensions. Approximately 90 dry holes were drilled during the year on edge leases.

Development of the East Texas field continued at a high rate the past year. Approximately 4000 oil producers were added, as compared to 3639 new wells in 1934. This single area has led all other fields in volume of drilling and completions for five consecutive years, and is destined to retain its leadership during 1936. Completions within the next 12 months will total between 2000 and 2500 oil wells, although substantial crude price increase may swell the total. Exhaustion of natural flow from wells in a large portion of the field will be a major factor in curbing development work, while many of the operators have approached the economic danger zone in drilling up their properties.

Gulf Production Company's exploration work on the Camp Hill structure, south central Anderson County, contributed the only new field in the Woodbine sand belt of East Texas. The discovery well on the Tucker Royal and M. A. Davey 174-acre tract, M. Rogers Survey, was completed in January, 1935, rated at 10,000,000 cubic feet of gas from Sub-Clarksville sand at 5080 feet after plugging back from Georgetown lime at 5969 feet. The well gradually developed a flow of 160 barrels of oil when the gas was used in drilling other tests. The Woodbine sand was proved for oil production in June when the company's J. M. Delany 1, Phillip Martin Survey, developed a rated flow of 2000 barrels potential at 5177-5181 feet. The sand section in both producing zones is comparatively thin, and probably will not yield in excess of 5000 barrels average per acre. Due to the rapid decline of production and depth of the pay zones the area is not considered attractive. The producing area as now outlined involves about 500 acres.

Second producing horizon for the Cayuga field was established by Tide Water Oil Company and Seaboard Oil Corporation's N. N. Wills 21-A, which developed a flow of about 7,000,000 cubic feet of gas and 75 barrels of water-white distillate from Lower Glen Rose



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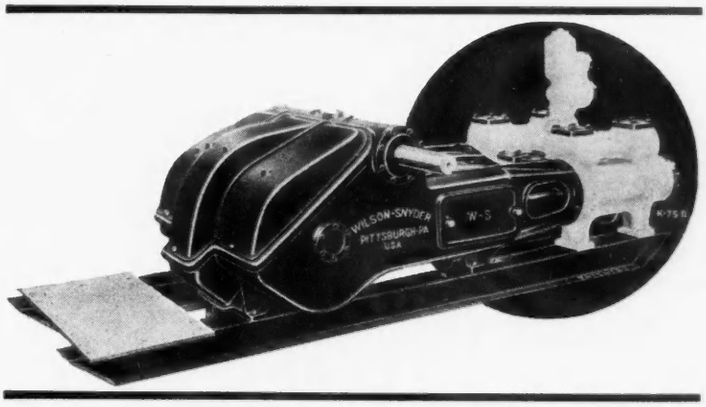

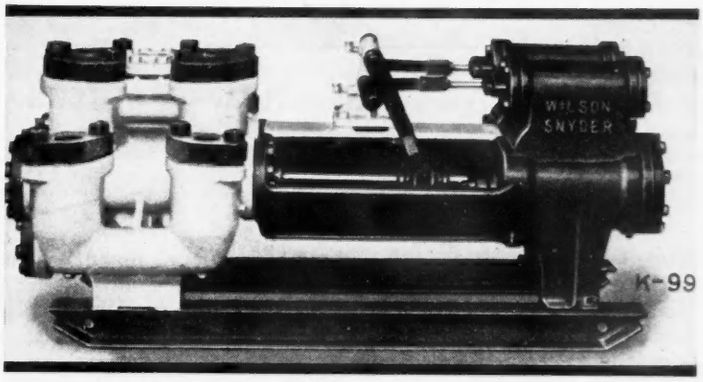

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after perforating casing from 7210 and 7360 feet. No production was encountered in drilling to the Travis Peak, or lower section of the Trinity at 7990-9085 feet. However, hot salt water prevailed in the latter zone. This strike will have a stimulating influence on deep exploration work throughout the Woodbine sand belt, and may be the forerunner of a second oil horizon being found at Cayuga, as the Lower Glen Rose carries possibilities of yielding oil at a lower structural position around the structure.

North and West Central Texas Discoveries Fall Short

NEW oil strikes in North and West Central Texas, comprising the principal stripper-well district for the state, fell short of the usual quota during the past year. Baylor and Cooke counties made the greatest strides in adding crude reserves, and likewise enjoyed a big share of the routine drilling operations as result of successful wildcat projects.

The Portwood district, southeastern Baylor County, contributed the most important production when Consolidated Oil Company and Petroleum Producers Company ventured beyond a group of dry holes on the south end of the older producing area and uncovered a prolific pool aggregating approximately 400 acres. The above companies, operating jointly and separately on certain leases, together with Geo. B. Ray and Staniforth controlled all the productive acreage. Production was found in sand zone near the 1350-foot level, and many of the completions ranged from 500 to 1500 barrels natural. More than 100 producers were recorded during the last nine months of the year. The area is credited with having approximately 6,000,000 barrels of recoverable oil.

Series of shallow strikes, or extensions scored in Cooke County proved up more acreage than that added by any other county in the district. Independents were responsible for all the strikes, and proceeded to cash in on their good fortune by waging drilling programs that temporarily placed Cooke County at the top of the list of active counties. Archer County held leadership for a number of years.

The Hott field, Montague County, added a third and deeper producing zone through the completion of Continental Oil Company, Seitz-Comegys & Seitz, Inc's S. J. Hott 10, Ed Conner Survey, A-580, pumping 138 barrels daily from sandy-lime at 2013-2017 feet.

Shallow oil strikes in Archer County, included L. T. Burns et al's Mamie Kolb 1, NWc Block 118, Harris Sub-division, rated at 25 barrels initial from sand at 1245-1253 feet. Steele & Scott's J. R. Garvey 2, Section 2, BBB&C Ry. Survey, A-841, responded to acid treatement of lime at 777-786 feet with an initial yield of four barrels hourly on pump. In eastern Archer County, Chatham and Bohner's J. D. Carpenter 1, NEc Lot 88, Block 4, Clark & Plumb Survey, pumped 96 barrels initial from sand at 1059½-1069½ feet.

Shallow oil pools were uncovered in northern Young County by E. R. Perkins et al and also the Mook-Texas Oil Company. Production in the Knox field was extended one mile to the west by the completion of Chas. E. Knox et al's W. B. Harrison 1, F. Jaime Survey, A-157, flowing 346 barrels initial after shot in Strawn sand at 2757-2771 feet. Several important extensions for the lime pay zone in the South Bend district were recorded by the Rathke Oil Company, Roberts Oil Corporation and others.

Activity in Wichita County was largely confined to the re-drilling of old producing areas in the western and southern sections of the county. Operators are finding it profitable to carry on this type of development on old leases, where multiple sands prevail. Wilbarger County lagged behind on new developments.

West Central Texas failed to come through with its normal quota of new discoveries and extensions. Bulk of the field work centered upon Shackelford County, which yields attractive production from a number of shallow sands. Reliance Oil & Royalty Corporation, Jones and Stasney's G. R. Davis 1, Section 4, T&NO Ry. Survey, stimulated wildcat activity in the west portion of the county in February by completing a 60 barrel pumper from sand at 1607-1611 feet. A number of strikes, representing extensions to the older areas, were recorded during the year, and enabled the county to account for the most completions in the district.

Renewed interest in the deep lime producing area in eastern Shackelford County was derived from Pitzer & West's G. T. DeLafosse 1, Section 1549, TE&L Company Survey, swabbed and flowed 213 barrels of oil on initial production test from lime at 4454 feet. It was deepened to 4461 feet and junked by a premature nitro shot.

An aggressive drilling program was given eastern Jones County throughout 1935 by independent operators seeking production from sands that prevail in western Shackelford County. The outstanding discovery was made by R. B. Farris and Leland Fikes' J. W. Jennings 1, located about three miles northwest of Lueders, completed in July flowing 1027 barrels natural from sand at 2041 feet.

Texas Panhandle Work in 1935 Shows Gain

Activity in the Texas Panhandle showed a substantial gain in oil and gas development, with an aggressive drilling campaign waged during the first nine months of the year in Western Wheeler County. Revival of drilling in strictly gas areas resulted from the proration of gas withdrawals by the Railroad Commission. Enforcement of this law will necessitate the drilling of a large number of gas wells during 1936.

Oil production in Gray County was extended

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about 4½ miles to the southwest through the completion of Bell Oil & Gas Company's Furneaux 1, SEc SE¼ Section 110, Block B-2, H&GN Ry. Survey with an initial flow of 35 barrels daily from granite wash horizon. The well was drilled to 3262 feet.

The Osborne area in southeastern Wheeler County was extended several miles to the north by Corite Oil Company's O. W. Stewart 1, SWc SW NW Section 73, Block 13, H&GN Ry. Survey. The well was completed in March flowing 160 barrels natural from granite wash formation at 2126-2143 feet. Failures included among later completions indicate that the producing area is virtually defined to the north and northeast.

Rocky Mountain Has Best Year Since 1924

IN its busiest year since 1924, the Rocky Mountain States had six important oil strikes that are estimated to have added 54,500,000 barrels of new reserves. Five of the strikes were in Wyoming and started an unprecedented geophysical exploration, leasing and wildcatting campaign that presages a big year during 1936. Montana had two important extensions to the Cut Bank field, already the world's largest in territory embraced and one strike, value of which is still undetermined. Colorado had what appears to be an important discovery, but further testing is necessary.

Adding 25,000,000 barrels in light oil reserves to the state, the new lower Sundance pool at Lance Creek in the eastern part of the state is now considered Wyoming's most important discovery. To date ten wells have been completed.

A record high gravity producing well was completed on Big Medicine Bow Dome, central Wyoming, gauging 6360 barrels of 64 gravity oil in the second Sundance and 2000 barrels of 42 gravity oil and 81,000,000 cubic feet of gas in the first sand. Reserve of Big Medicine Bow is estimated at 20,000,000 barrels, The discovery was minimized considerably when the second test had water in the second Sundance in the lower part of the first Sundance, limiting the productive area to around 800 acres. The well showed saturated oil in three sands, possible recoveries from the top of the structure in these horizons were not considered in the reserve estimate.

From an exploration standpoint, The California Company brought in one of the most important Rocky Mountain discoveries when it proved the first Rocky Mountain geophysical structure. This was at Quealy, where one 600-barrel well and one 1000-barrel well has been completed. The reserve is estimated at 7,500,000 barrels. This started active use of geophysical instruments in the district, and several new companies entered.

Several additional strikes were found in Wyoming, Colorado and Montana, but the accompanying will suffice.

Data on Wyoming 1935 Strikes

FIELD	Reserve In Millions Of Bbls.	Type of Discovery	Formation	Depth	Company, Well and Location
Lance Creek	25	New Zone	Third Sundance	3901	Ohio Oil Co., Rholff 2, cne se 32-36n-65w, Niobrara county.
Big Medicine	20	New Field Two Zones	First and Second Sundance	5222 5263	Ohio Oil Co. California Co., Kyle 1, ne se ne 6-21n-79w, Carbon county.
Quealy Dome	7½	New Field Two Zones	Dakota Muddy	3263 3100	California Co., Holst 1, ne ne se 12-17n-77w, Albany county.
Rock River	2½	New Zone	Sundance	3196	Ohio Oil Co., Harrison-Cooper 10, ne nw sw 35-20n-78w, Carbon county
Sheep Creek	2½	New Field	Embar	2100	Mid-American Oil Co., Government 2, cne sw 14-28n-92w, Fremont county.

Total Wyoming reserve added by 1935 strikes 50,500,000 barrels.

Data on Montana 1935 Strikes

FIELD	Reserve In Millions Of Bbls.	Type of Discovery	Formation	Depth	Company, Well and Location
Cut Bank	4	North Ext. 3 miles	Cut Bank	3050	Montana Power Gas Co., Hall 1, csw se 35-35n-6w, Glacier county.
		West Ext. 3 miles	Cut Bank	2852	Gardner-Smith Syndicate, Tweedy 1, ne nw 36-33n-6w, Glacier county.
Flat Coulee	....	New Field	Baskoo	2887	J. H. Hamilton, Northern Farms 1 cne sw 10-37n-5e, Liberty county.
Bow and Arrow	....	Gas Field	Sunburst	2080	T. P. Kyle, Clark 1, nw se 24-37n-1w, Toole county.

Total Montana reserve added by 1935 strikes, 4,000,000 barrels.

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These expressions of friendly appreciation mean much to us, and the good will which they reflect represents the very foundation on which our own growth and development has been made possible.

We pledge anew to the representatives of one of our greatest industries our whole-hearted cooperation and our most conscientious effort that they may continue to be so served throughout the years.

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Routine Operations

OKLAHOMA LACKING IMPORTANT DEVELOPMENTS DURING THE WEEK

WEEKLY STAFF REPORT

Tulsa.—Development in Oklahoma was rather uninteresting during the week with several importantly located wildcats drilling at unimportant depths but the reports were spiced with announcements of new wildcat tests for areas which have been blocked during the past year. First reports largely in proved and semi-proved area showed an appreciable increase with 58 starts in 16 scattered counties. Pontotoc County led the group with eight first reports; Seminole County was second with seven; Osage County had six; Oklahoma, Creek, Muskogee and Okmulgee Counties had five each; Payne and Okfuskee Counties, three each; Kay, Logan, Hughes and Pottawatomie Counties, two each, and Cotton, Stephens and Lincoln Counties, one each. Of the total of 64 completions 36 were oil wells with combined initial rating of 69,949 barrels, seven were gas wells with combined initial volume of 52,250,000 cubic feet, 19 were dry holes and two were abandoned locations. Five wildcat dry holes contributed a total of 15,688 feet of completed drilling, nine old wells were deepened a total of 2236 feet and the 50 remaining completions boosted total for the week to 86,867 feet.

CITY AREA ROUTINE

Oklahoma City.—The North Oklahoma City pool or "Mansion area" had a quiet week with no wells at the completion stage. Principal concern of operators of the area was the attempt to be made in the February allowable hearing to reduce the allowable from 21.5 to 10 percent. The "Mansion area" has been held to be an extension of the Oklahoma City pool and as such given the regular Wilcox sand allowable. Recent bottom-hole pressure readings show the producing zone at minus 5100 feet to have pressures of 540 to 580 pounds per square inch or approximately 2100 pounds less than the original pressure in the Oklahoma City pool. The surface structure map shows the main pool and the north area connected by a narrow saddle, a condition which some geologists believe exists in the subsurface structure. These points were offered in the hearing of Friday, January 24.

Denver Production and Refining Company's Sah-Cam 1, C SE SE 33-10n-10w, second test in the Binger area of northeastern Caddo County, was the deepest drilling well in the state as it drilled ahead below 9800 feet.

Production in the first test, now the deepest producing well in the world, was found between 9908 and 9986 feet, subsequently that test was deepened to 11,230 feet to establish a depth record for the northern Mid-Continent area.

North Britton Test Low

Mid-Continent Petroleum Corporation's Dahl 1, NE NE NW 8-13n-3w, between the Britton and Edmond pools in northwestern Oklahoma County, was drilling below 6765 feet in shale and running so low that it is not expected to make a well.

New Lincoln County Pool

Stanolind Oil & Gas Company and Amerada Petroleum Corporation's Crawford 1, NE NE SE 35-15n-3e, nine miles northwest of Chandler in western Lincoln County, started producing at the rate of 25 barrels of oil, a trace of water and approximately 5,000,000 cubic feet of gas per day to give that county a new pool. Production is from Second Wilcox sand topped at 5218 feet and penetrated to 5229 feet. First Wilcox sand was topped at 5110 feet. The operators purchased the W½ NW 36-15n-2e at a lease auction during the week, paying $8093.

FITTS AREA QUIET

Ada, Okla.—As this is written operators in the Fitts pool of southeastern Pontotoc County are assembling in Oklahoma City where a hearing will be held before the Oklahoma Corporation Commission to determine the state allowable for the month of February and to allocate such production to the various pools of the state. The Fitts pool has been developed under the most efficient methods ever applied to an Oklahoma pool. In the completion stage wells are permitted to flow through the casing for a period of only two hours. The potentials and all other production must be taken through tubing the maximum diameter of which can be only 2½ inches. Bottom-hole pressure readings are taken each month in a representative group of key wells. With a potential of 671,188 barrels the pool was allowed to produce only 31,640 barrels per day during January, or only 4.6 percent of the potential. E. H. Moore et al have petitioned the corporation commission to reclassify Wilcox sand in the pool from Class D to Class C in which it would receive a percentage of potential allowable instead of the 100 barrels per well per day allowed Class D pools. Attempts will be made in connection with the February allowable hearing to obtain larger allowables through the cutting back of other pools, probably largely the north extension of the Oklahoma City pool.

West of Coalgate

Seventeen miles west of Coalgate near the town of Clarita in southwestern Coal County, Southern Oil Company's Fish 1, SW SW SW 6-1s-8e, was drilling below 1600 feet after encountering a hole full of fresh water from sand at 1513 to 1569 feet. This wildcat test encountered top of the Bromide formation of the Simpson Group at 952 feet. Finding of fresh water in this geologic position and under enough pressure to fill the hole may indicate that no barrier exists between the test and the outcrop or that the sands are being permeated by meteoric water passing from the surface downward through faulting or fracturing.

Northwest of Fitts

Gypsy Oil Company and Ramsey Petroleum Corporation's Emry 1, SW SW NE 15-2n-6e, 2½ miles northwest of the Fitts pool, topped Woodford shale at 5395 feet, Hunton lime at 5548 feet and cored from 5557 to 5561 feet. The core was not recovered and the test was drilling below 5565 feet. Contract depth is 6500 feet.

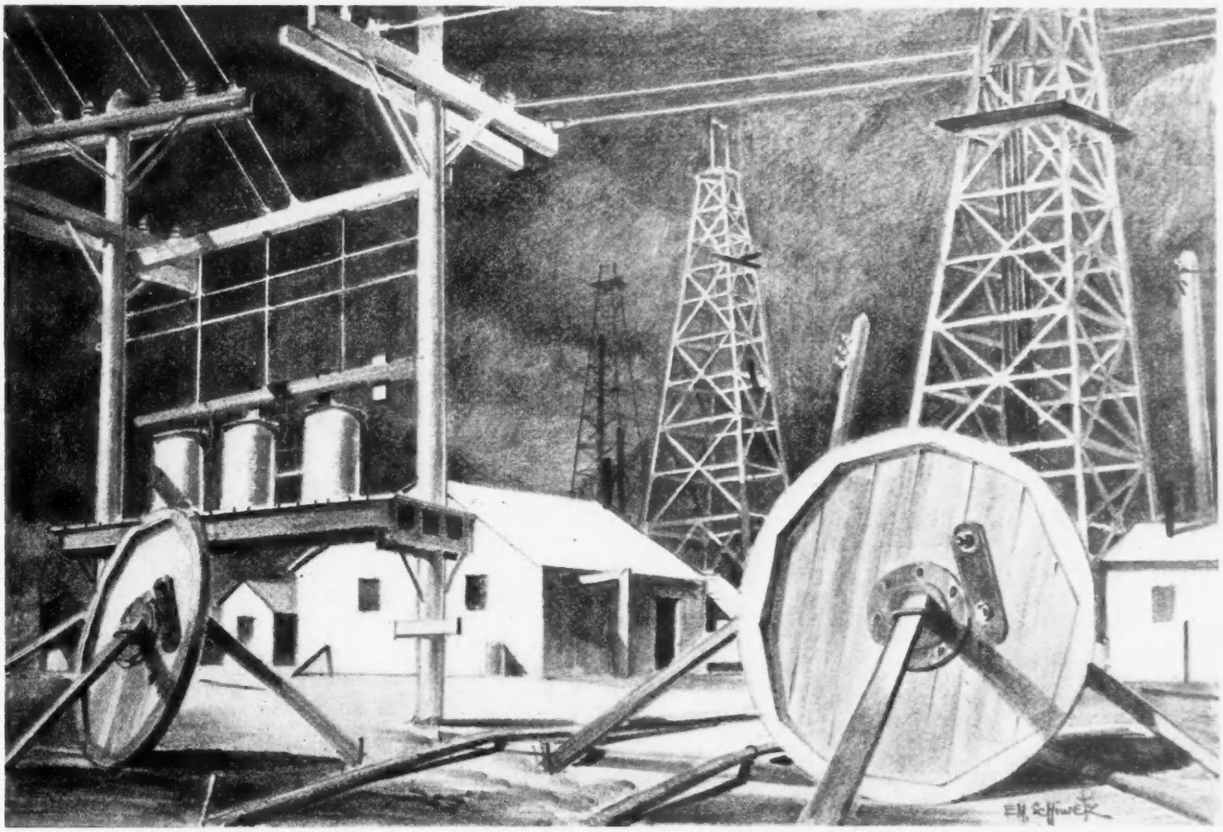
Centrahoma Area

Carter Oil Company et al's Thompson 1, C SL NE NW 34-2n-9e, a few weeks ago the chief topic of conversation in every gathering of field men, has been relegated to the background although the operators believe in its possibilities enough to carry it below the contract depth. Late in the week a small showing of heavy black oil was encountered in calcareous sand from 7055 to 7060 feet. It was drilling ahead below that depth, having passed contract depth at 7000 feet.

Shell Petroleum Corporation's Hill 3, SE SE NW 30-3n-10e, wildcat test seven miles northeast of the town of Centrahoma in northern Coal County, had a dry broken sand from 1495 to 1520 feet and was drilling ahead below 1545 feet. It is on a large block assembled more than a year ago.

TAKES BLOCK

Enid, Okla.—J. Harmon Lewis, president of Equitable Royalty Corporation, has completed a block of approximately 3000 acres, centering around Section 34-21n-6w, on a seismograph "high" nine miles south of Enid in southwestern Garfield County. Ten miles northeast of Enid and just west of the town of Hunter in north central Garfield County, Carl



BULLWHEELS AND DERRICKS — *A Lithograph by E. M. SCHWEITZ*

The FIRST NATIONAL BANK in Houston congratulates the oil industry of Texas on its splendid progress during 1935 and its bright prospects for 1936. Located in the heart of the major producing section of Texas (most important oil state in the Union), the First National has been privileged for many years to serve the industry in all its branches; its facilities for such service are complete.

Ford was reported completing a block of approximately 3500 acres in township 24n-5w. Carter Oil Company recently studied the area geophysically and presumably will take the block from Ford.

Alfalfa Test Near Wilcox

Olson Drilling Company et al's Acre 1, C SW NE 14-24n-11w, 14 miles south of Cherokee in southern Alfalfa County, was drilling below 7274 feet after coring sand from 7260 to7270 feet and having oil stains in the cuttings at 7272 feet. Whether or not this is top of the Wilcox sand has not been reported but the test is thought to be near that horizon. It is located on a core-drill, surface and seismograph structure. Some geologists report Viola lime to have been entirely missing while others believe that this formation was represented by only a thin streak.

WILDCATS WATCHED

Southern area tests are center of attention

Ardmore.—Interest which was evidenced in restricted Indian lands located in southern Oklahoma counties and offered at the Five Civilized Tribes auction on Wednesday, January 22, is typical of the attitude toward that part of the state as operators watch closely several important wildcat tests and especially Carter Oil Company et al's attempt to bring back their discovery well in the old Fox pool of northwestern Carter County. It is believed that several blocks now completely assembled will receive definite attention within the next few weeks.

Near Hewitt

The Texas Company and J. H. Hudson's Cathey 1, SE NE NE 6-5s-1w, one-half mile from production in the Bayou or Southeast Hewitt pool in western Carter County was perhaps the most interesting of the present group of wildcat tests. It was drilled to 4157 feet and 8⅝-inch casing set at 4095 feet after obtaining nice showings of oil from cores at 4098 to 4118 feet and 4135 to 4157 feet. Operators were ready to drill plugs late in the week. Although the test is within a half-mile of old production it is a rank wildcat since it is seeking production in a deeper horizon.

Five miles northeast of the town of Marietta, Amerada Petroleum Corporation and Stanolind Oil and Gas Company's Westheimer 2, SW SE SW 27-6s-2e, was drilling below 4500 feet still in green shale with an occasional streak of tight dolomite. This interesting wildcat test had a thick section of Viola lime and has been drilling and coring in Simpson shale, dolomite and thin limestones for more than 700 feet. Sixteen miles northwest of Marietta in the northwestern part of the county Sinclair Prairie Oil Company was ready to whipstock at 5432 feet and redrill the hole which had reached 7165 feet when drill pipe was frozen. Attempts to remove the pipe by backing off and by washing over and cutting were unsuccessful below 5100 feet.

Carter Oil Company et al were reconditioning the hole and making ready to resume drilling at 6850 feet in Williams 1, SW NE SW 27-2s-3w, Simpson discovery in the old Fox pool of northwestern Carter County. A book containing a list of all the grief that could happen in drilling a deep rotary test would read something like the history of this test. It was drilled to 8088 feet about the middle of October, 1935, when drill pipe was stuck. In trying to free drill pipe the hole was acidized, the result of which was a blow out and the well flowed wild for almost a week. Repeated attempts to regain circulation after the well was killed with heavy mud were unsuccessful and it has been plugged back with cement to 6850 feet, from which point it will be redrilled.

This test probably should receive credit for precipitating the greatest leasing and royalty campaign that southern Oklahoma has experienced in many years. Hard luck in bringing it to the completion stage probably is accountable for the watchful waiting attitude of many of the operators now owning sizable blocks in that part of the state.

INDIAN LAND SALE

Tulsa.—Approximately 13,700 acres in 172 tracts in southern Oklahoma were auctioned by the Five Civilized Tribes here January 22 for a bonus aggregating $57,225.01, or an average bonus of $4.17 per acre.

The highest price per acre was paid by Buffalo Oil Company when it bid $30 per acre for E½ SE 13-6s-7w, on the Nacona Uplift in southwestern Jefferson County. Indian Territory Illuminating Oil Company paid $29 per acre for a 20-acre lease in section 8-6s-6e, eastern Marshall County.

Other successful bids were: Buffalo Oil Company, 124 acres at $24 per acre; H. H. Diamond, five acres at $26 and 20 acres at $12.50 per acre; Gypsy Oil Company, 137.76 acres at $17.50 per acre, 40 acres at $13, and 10 additional acres; Phillips Petroleum Company, 50 acres at $28 per acre, 50 at $27.50 per acre, 10 at $27 per acre, and 100 at $11.50 per acre; Paul Sutton, 10 acres at $10 per acre; The Texas Company, 100 acres at $27.50 per acre and 120 acres at $10.50 per acre; Twin State Oil Company, 40 acres at $27.50 per acre.

BIG TEXAS LAND BIDS

Austin.—State Land Commissioner J. H. Walker received bids last week on thousands of acres of state lands scattered from the Panhandle to the Gulf Coast.

Bids were being tabulated late in the week, and the commission stated that they ran unusually high. $2,500,000 was paid into the suspense fund of the state by bidders for these leases. This sum represented the initial payments filed with bids. Refunds will be made to those bidders to whom no awards are made.

Commissioner Walker expected that at least two weeks would be required to study the bids and determine the successful bidders.

SCOUTS ORGANIZE

Oklahoma-Kansas men join national association

Oklahoma City.—In a meeting attended by 80 oil scouts and land men held here January 17, it was decided that Oklahoma scouts would affiliate with the national association through the organization of an Oklahoma Chapter of the National Oil Scouts Association. B. F. Sutherland, scout in the Shawnee district for Atlantic Oil Producing Company, was elected president of the chapter; Morris "Dutch" Miesse, scout in the Ada district for Phillips Petroleum Company, was elected vice president; and M. A. Ricketts, scout in the Enid district for Sinclair Prairie Oil Company, was elected secretary-treasurer.

The first meeting for the purpose of discussion reorganization and possible affiliation with the national association was held on November 15, 1935, at Shawnee at which time Jess Bullard, president of the national association, addressed the group with an outline of association activities. It was the concensus of opinion of that meeting that a new organization should be effected. Since that time the scouts have been feeling out sentiment of other scouts and of executive departments. A membership drive for the new organization will be perfected by the appointment of one man to cover each of the check meetings.

The scouts yearbook hereafter will contain information on Oklahoma and Kansas.

OKLAHOMA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ATOKA COUNTY—		
Pierce, Aetna Life Ins. 1-A, nw sw ne 10-1n-13e	*	4004
BECKHAM COUNTY—		
The Texas Co., Smith 1, sw sw nw 17-8n-23w	*	2188
Speed & Barker, Pederson 1, ne ne nw 23-9n-23w	lcn.	abnd.
CADDO COUNTY—		
Wasketa Oil Co., Melton 1, se se se 26-6n-10w	¶15	5169
CARTER COUNTY—		
Carter, Bridenthal 2, ne ne ne 9-1s-3w (pb 2750)	85	2848
Coline Oil Corp., Higgins 4-A, nw nw ne 7-2s-2w (otd 1490)	20	2492
COTTON COUNTY—		
Grace & Woods, Alva Henderson 1, ne se se 27-4s-11w	*	2326
CREEK COUNTY—		
Wright Estate, Fee 5, ne nw sw 19-17n-11e	15	2504
Gilmore, Vandeslice 1-A, sw ne nw 32-15n-15e	*	1571
Summett Drlg. et al, Stone 1, sw se nw 12-14n-7e	*	4025
Sinclair Prairie, Long 6, se sw sw 9-18n-7e (otd 2569)	10	2687
HUGHES COUNTY—		
Turner, Williams 1, sw sw sw 35-7n-10e	*	538
Blackwell O&G Co., Oliphant 4, ne se sw 1-9n-8e	100	1755
Manahan Oil Co., Tucker 1-A, se se se 2-9n-8e (pb 1754)	144	1764
Fitzpatrick, Dixon 4, ne sw ne 12-9n-8e	115	1762
JACKSON COUNTY—		
Gypsy Oil Co., Bryd 1, nw nw, nw 14-1n-20w	89	1513
Cole et al, Fee 1, se sw sw 34-2n-20w (pb 1461)	57	1467

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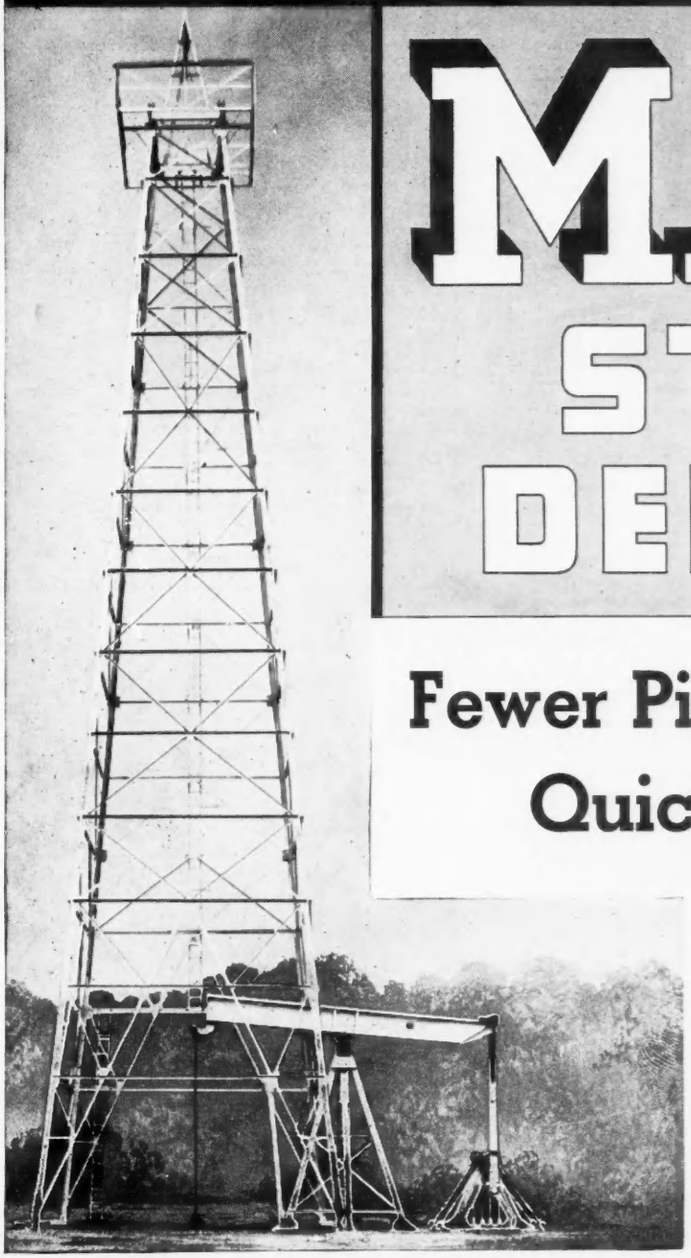

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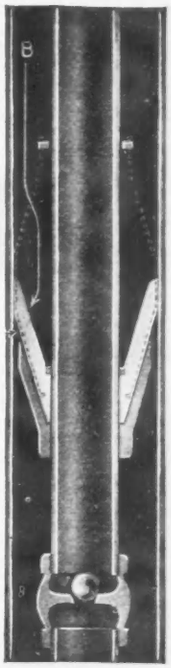
Southern Pacific

J. T. MONROE, *Passenger Traffic Manager*
Southern Pacific Building, HOUSTON, TEXAS

Company, Well and Location	Init. Prod. Bbls.	Depth
JEFFERSON COUNTY—		
Sterntex Oil Co., Black 5, nw nw se 16-7s-5w	10	804
KAY COUNTY—		
Kansas-Oklahoma O&G Co., Wolf 1, cne sw 6-28n-1e	¶½	1220
Bay Oil Corp., James "A" 1, sw se nw 14-28n-3e	*	3182
LINCOLN COUNTY—		
Stanolind-Amerada, Lewis 1, sw sw sw 33-15n-3e	1032	5112
Texas, Vanderpool 1, nw sw se 11-16n-3e	*	4795
LOGAN COUNTY—		
Sinclair Prairie, Brown 1, sw sw sw 31-17n-1e	*	5286
Gypsy, McDermott 1, se sw nw 28-17n-4w	*	6790
Pfeiffer 2, cn½ se se 33-20n-2w (otd 5022)	1665	5150
MARSHALL COUNTY—		
Kingston Oil Co., Fee 2, nw se nw 6-8s-6e	lcn.	abd.
NOBLE COUNTY—		
Harry Chappel, Ragan 1, nw se nw 29-21n-1w	*	1805
Stanolind et al, DeBord "A" 2, sw ne sw 27-22n-2w	1240	4871
OKFUSKEE COUNTY—		
Fleming, Robinson 1-A, sw sw sw 1-10n-11e	*	1670
Panther, Smith 3-A, sw ne ne 11-11n-11e	*	1410
Ralvern Oil Co., Camp 1, cnw nw 12-11n-8e	110	3930
OKLAHOMA COUNTY—		
British-American, Mary Green 1, sw sw sw 23-12n-3w (otd 6265)	¶38-10,493	6400
Mary Green 2, sw sw sw sw 23-12n-3w	¶72-19,794	6405
Phillips, Inkster 1, cwl sw ne 34-12n-3w	480	6525
Pure, Malm 4, sw se sw 30-14n-3w	6569	6705
OKMULGEE COUNTY—		
Campbell, Doneghy 1-A, se nw sw 20-16n-12e	*	1680
Harmon, Magginnis 1-A, sw sw ne 24-16n-14e	¶9¼	1796
OSAGE COUNTY—		
Norbla Oil Co., 1, se se ne 25-24n-7e (otd 2848)	5	2857
Peters Pet. Co., 9, cnl s½ nw 32-24n-9e (otd 2483)	50	2514
Kewanee Oil Co., 4, ne sw sw 26-26n-6e	¶4½-2213	2914
PAYNE COUNTY—		
Deep Rock Oil Corp., Ryan 1, ne sw sw 34-18n-5e	¶15	3090
PITTSBURGH COUNTY—		
Weeble, Brown 1, sw sw sw 14-8n-15e	*	881
PONTOTOC COUNTY—		
Clark & Cowden, Summers 3, sw se nw 17-2n-7e	45	1730
Manahan Oil Co., Wagner 5, ne nw sw 17-2n-7e	62	1722
Boettcher O&G Co., Burris 2, se ne nw 27-2n-7e	¶8	1948
Amerada, Smith 4, nw se nw 28-2n-7e	¶1½-2671	4285
Carter, Smith 6, sw ne sw 28-2n-7e	2436	4300
Magnolia, Simpson 4, nw se ne 29-2n-7e (otd 4223)	¶1-3075	4280
Moore, Wirick 1-A, se se sw 29-2n-7e	¶4¾-3175	4270
Carter, Richards 9, se ne se 30-2n-7e	3283	4145
Stanolind, Hardin 9, se sw sw 30-2n-7e (otd 4140)	2379	4386
Fleetborn Oil Corp., Smith 2, ne se ne 31-2n-7e	¶8-5664	4423
Mexhoma Oil Co., Butler 4, cwl sw sw 21-5n-8e	¶3	979
POTTAWATOMIE COUNTY—		
Inland Drlg. Co., Brandenburg 1, se se nw 9-7n-4e (otd 3785) (pb 4035)	*	4295
SEMINOLE COUNTY—		
Traugh et al, Dawson 1, se ne ne 30-6n-5e	*	2516
Lynch Bros. Drlg. Co., Hall 1, nw ne sw 19-5n-6e	195	2747
Carter, Nichols 1, cn½ sw nw 2-10n-6e	790	4143
Dunaway 2, cw½ nw sw 11-10n-6e	420	4184
Magnolia, Andrews 3, cw½ ne nw 14-10n-6e	1440	4186
TULSA COUNTY—		
Claude Drlg. Co., Clinton 1-A, nw se se 32-19n-12e	*	2353
WAGONER COUNTY—		
Boley, Jacobs 1, se se se 6-17n-16e	¶1½	1030
Dr. Carder, Sarty 1, nw nw ne se 8-17n-16e	*	1028
Sands Pet. Co., Lovett 4, ne ne se 22-17n-16e	10	950
Seacrest, Childers 1, nw nw sw 23-17n-16e	8	1014

*Failures; †Junked; ¶Million cu. ft. gas.

SCIENTIFIC SWABBING



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GUIBERSON

BETTER BE SAFE THAN SORRY

Wildcats Showing

NEW DISCOVERIES INDICATED BY KANSAS OUTPOST TESTS

WEEKLY STAFF REPORT

Wichita.—Although nothing sensational developed during the week in Kansas, showings in several wildcats indicated that new pools were in prospect and other pools of recent discovery were being extended. Notable among these was the Feist area of eastern Barton County where Torrey and Feaster et al's Kimpler 1, SE NE NE 31-18s-11w, topped Arbuckle (siliceous) lime at 3423 feet and had 150 feet of oil in the hole at 3426 feet. It is more than a mile southwest of the discovery well in the Feist pool which was discovered recently by the same operators. Probable long extension of the Wakeeney pool in northern Trego County and the start of development of a new productive horizon in the old Churchill pool of eastern Sumner County were other features of the week. A test in northeastern Clark County was within 126 feet of the depth record and probably will set a new record for Kansas before it is completed.

Wakeeney Pool May Extend

Robert McNeeley and Alma Petroleum Company's Rhodes Estate 2, C NW NE 14-11s-23w, north of Wakeeney in northern Trego County, was showing for about 200 barrels initially from Oswald lime drilled to 3519 feet and apparently extending the Wakeeney pool approximately one mile northeast of the discovery well. The first evidence of the importance of this area came when two wells approximately a mile apart were completed. However, it has been without pipe line connections and is defined only in a very general way. When fully developed it may prove to be more than one structure. Otherwise it probably will be one of the largest pools in northwestern Kansas at least in areal extent. Alma Petroleum Company is a subsidiary of Watchorn Oil & Gas Company of Oklahoma City. McNeeley is a geological graduate from the University of Oklahoma and has been in the consulting business for a number of years in Wichita, Kansas.

Olson Drilling Company et al's Stevens 1, W½ NW NW 21-32s-21w, northwest of the town of Protection in northeastern Clark County, was coring below 6780 feet in Wilcox sand, within 126 feet of the depth record for Kansas. It topped Viola lime at 6569 feet and had a showing of oil and gas between 6575 and 6580 feet. Interested in the wildcat venture with Olson Drilling Company is Watchorn Oil & Gas Company which drilled the deepest test in the state. Its Morrison 2, C NW NE 20-32s-21w, slightly less than one-half mile east of the Stevens 1, topped Viola lime at 6530 feet, Wilcox sand at 6698 feet, and Arbuckle lime at 6853 feet. Reaching a depth of 6906 feet, 53 feet below top of the Arbuckle, it established a depth record on March 11, 1931. In Morrison 2 the interval between top of the Viola and Arbuckle limes was 323 feet. Applying this interval to Stevens 1 that test should find top of the Arbuckle at approximately 6892 feet. Assuming further that it penetrates the Arbuckle as much as did Morrison 2, its total depth would be 6945 feet, a new depth record for the state.

The present depth record of 6906 feet for Kansas is not deep as compared with some of the other tests which have been drilled elsewhere but geologically it is deeper than any other test anywhere in the world outside of the Oklahoma City pool where Arbuckle lime was penetrated to approximately 300 feet above its top. This record might be questioned by only one other test of which the writer is familiar. A test near Tulsa was said to have penetrated approximately 600 feet of Arbuckle lime several years ago. There still would remain a question, however, as to whether or not the latter had encountered beds geologically older than either in Clark County, Kansas or in the Oklahoma City pool.

Reno County Active

Marathon Oil Company's Bontrager 1, NE NE NE 33-24s-5w, appears to extend the Yoder pool of east central Reno County one-half mile to the west with an initial yield of 145 barrels of oil along with 10,000,000 to 13,000,000 cubic feet of gas and about three bailers of water per hour from Mississippi chat topped at 3385 feet and penetrated to 3463 feet. Operators deepened to 3529 feet with no increase in production and were running 6⅝-inch casing.

In the next township east McPherson Drilling Company et al's Scheuchzer 1, NE SE SW 17-24s-4w, topped the Mississippi chat at 3307 feet, had first gas at 3317 feet, a good showing of oil from 3344 to 3349 feet, drilled to 3362 feet and were preparing to run 6⅝-inch casing.

Stanolind Oil & Gas Company's Peter M. Hilger 1, NW NE NW 16-26s-4w, one-half mile north of the discovery well in the Hilger pool in southeastern Reno County, topped Viola lime at 4055 feet, cored saturated lime from that depth to 4058 feet, and set casing at 4052 feet. It was being standardized.

Five miles southeast of Pratt in southeastern Pratt County, H. V. Elwell and Lario Oil & Gas Company's Lemon 1, SE SE NW 12-29s-13w, was drilling below 1345 feet with nothing showing. Nearest production is in the Cunningham pool of

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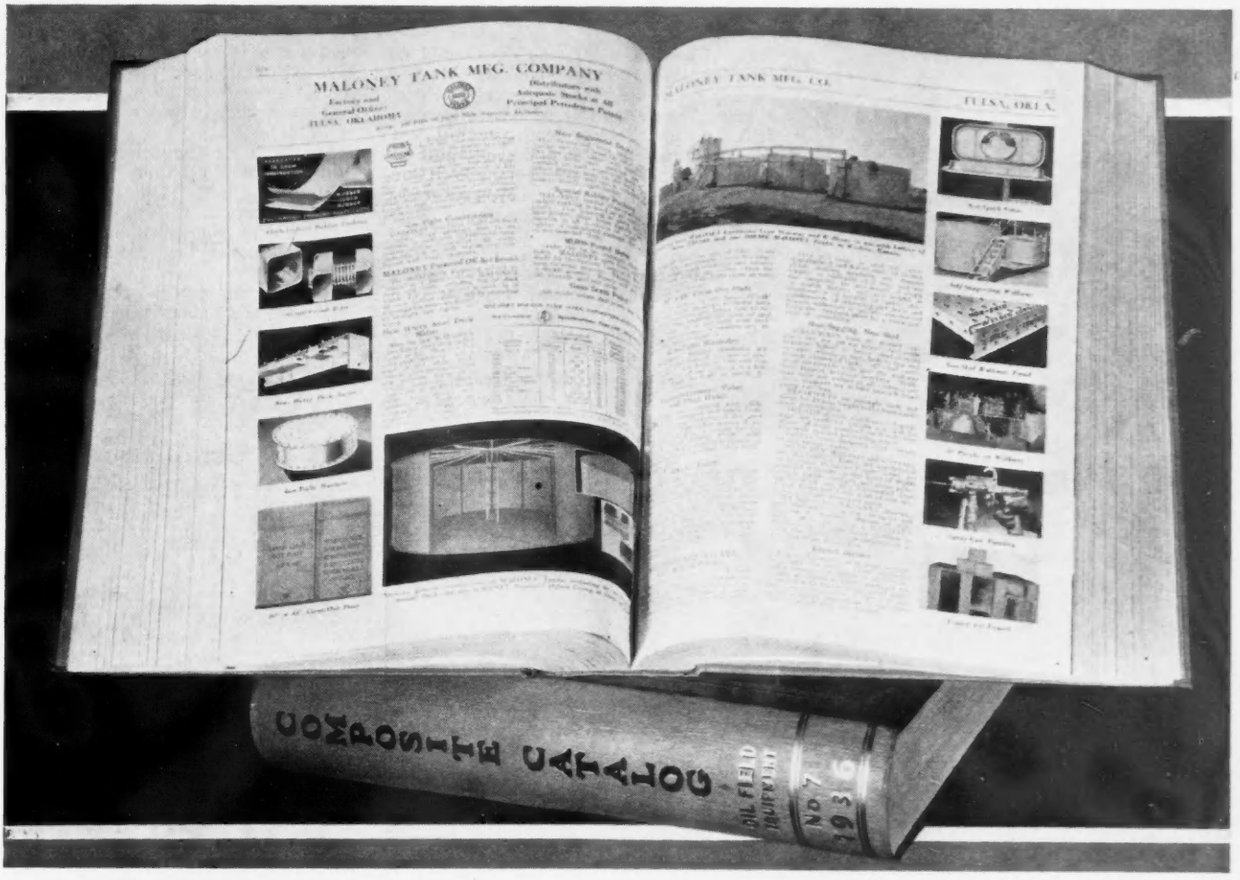

MALONEY CONDENSED CATALOG

IN CONVENIENT REFERENCE FORM COVERING QUALITY BOLTED STEEL TANKS AND WALKWAYS

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northwestern Kingman County nine or ten miles to the northeast.

New Horizon Churchill Pool

Derby Oil Company's Reitz 1, NW NE SW 25-31s-2e, recently completed for 798 barrels initially, has been correlated as producing from the Kansas City lime, giving that area a new producing horizon. That the new find will precipitate considerable activity is indicated by the fact that three locations were made immediately. Derby has staked locations for Reitz 2 and 3, on a 2½-acre lease near the junction of the Ninnescah and Arkansas Rivers. Shell Petroleum Corporation had started work at Shore 1-B, south offset to the discovery well. Shell owns all of the surrounding acreage and will be forced to drill 12 offsets if the two new Derby locations prove commercially productive.

The Churchill pool was discovered on June 23, 1926 and developed its principal production in the Stalnaker sand of Pennsylvania age. A total of 83 wells were drilled to an average depth of 1870 feet. The productive area includes Sections 24, 25, 26 and 36-31s-2e and Section 19-31s-3e, an area of approximately 775 acres, most of which probably is underlain by Kansas City lime production. It is only about two miles north of the Oxford pool where a campaign is developing a large potential in the Simpson Group at approximately 2900 feet.

Continental Oil Company has staked location for Wynn 1, NE NE SW 13-18s-8w, two miles north of the Geneseo pool and just southwest of the town of that name in northern Rice County. Continental was the discoverer of the Geneseo pool when it completed Lansing 1, NW NW SE 25-18s-8w, producing 1113 barrels initially from a total depth of 3172 feet in Arbuckle (siliceous) lime topped at 3132 feet.

Southeast of the town of Wherry in southeastern Rice County, Tabor, Coleman and Atlantic Oil Producing Company's Tharp 1, C NW NW 33-21s-6w, topped Mississippi chat at 3584 feet and were drilling below 3630 feet with no showings reported.

In the northwestern part of the county, Hinkle et al's Schoerig 1, NE NE SE 21-18s-10w, topped Oswald lime at 2885 feet,

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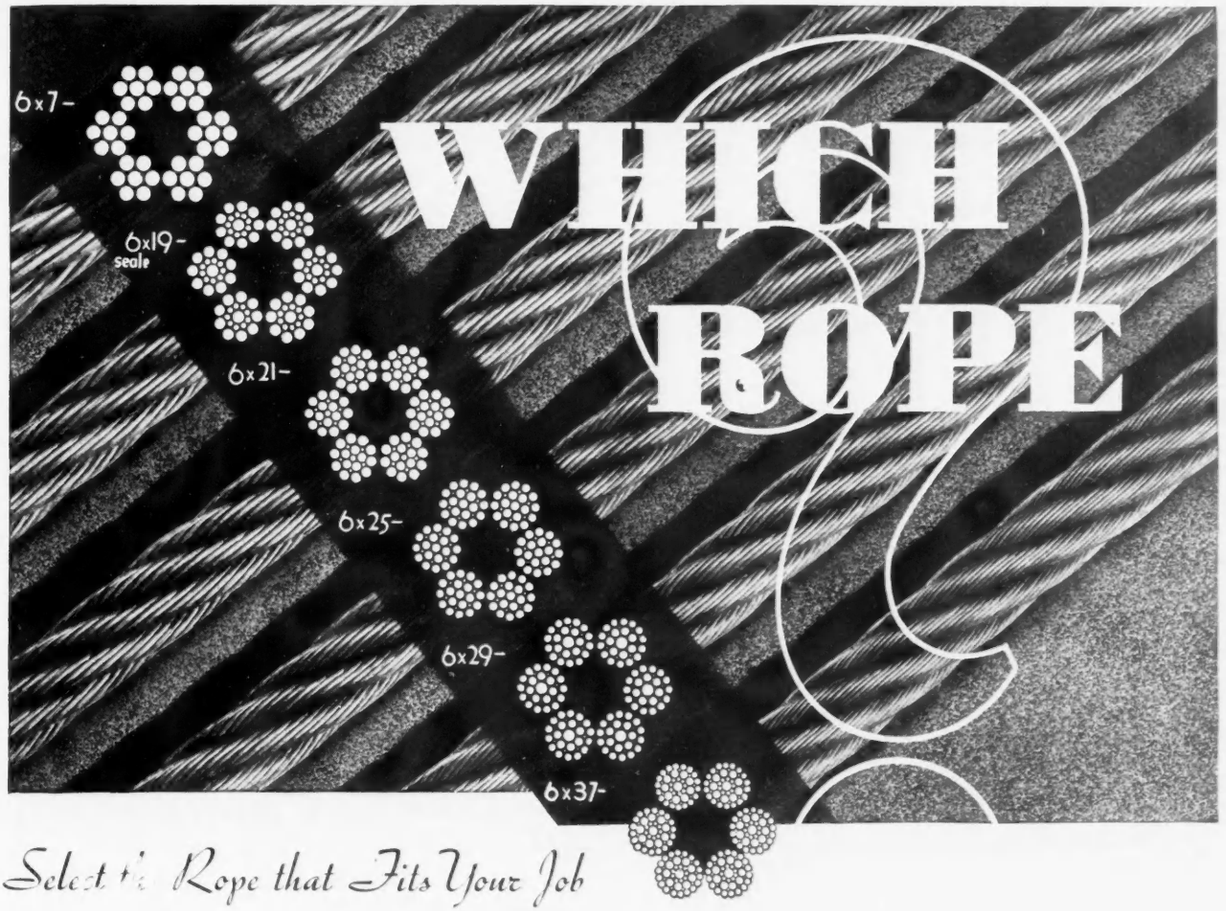
MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION

KANSAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BARTON COUNTY—		
Gypsy, Zahorsky 1, se se se 14-20s-11w	764	3315
Lario & I.T.I.O., Zahorsky 1, ne ne ne 23-20s-11w (pb 3313)	*	3364
BUTLER COUNTY—		
Vickers Pet. Co., Joseph 3, sw nw nw 2-25s-3e	105	2728
McCramer "D" 2, cwl nw ne 2-25s-3e	120	2712
Empire, Gussman 17, cn½ ne ne 18-26s-5e (otd 1987)	15	2430
COFFEY COUNTY—		
Franklin Drlg. Co., Rosillion 1, sw se 1-23s-14e (otd 1204)	50	1538
ELLIS COUNTY—		
Palmer & Storm King, Ruder 3, sw nw ne 17-15s-18w	1500	3291
ELLSWORTH COUNTY—		
Empire, Dees 2, se nw nw 23-17s-9w	339	3184
GREENWOOD COUNTY—		
Barbara Oil Co., Pixlee 16, sw nw sw 8-22s-10e	60	2324
Oko Oil Co., Shadell 14, cn½ se se 15-23s-13e	15	1806
Shaffer & Howell, Sander 3, se ne se 16-23s-13e	50	1773
HARVEY COUNTY—		
Sunray Oil Co., Hege 1, sw nw sw 13-22s-2w	¶9	2960
McPHERSON COUNTY—		
McPherson O&G Co., Chindberg K2, sw nw nw 32-18s-2w	245	2327
RENO COUNTY—		
Shell, Lee 1, ce½ e½ se 10-26s-9w	5646	4158
RICE COUNTY—		
Slick, Pryor & Lockhart, Habiger 2, nw nw se 27-18s-10w	58	3248
Keith et al, Volkland 5, sw nw se 20-19s-9w	464	3280
Mid-Continent, Hartle 5, nw se nw 15-20s-9w	1275	3240
Skelly, Graham 1, sw se se 16-20s-10w	1489	3347
Phillips, Mezger 7, ne nw ne 21-20s-10w	1030	3356
RUSH COUNTY—		
Olson Drlg. Co., Schmidt 1, cse ¼ 4-18s-16w (pb 3518)	¶½	3547
RUSSELL COUNTY—		
Phillips & I.T.I.O., Wineteer 1, sw sw se 19-13s-14w	396	3018
Bridgeport Machine Co., Witt 7, se nw sw 3-14s-15w	1168	3112
Stanolind, Benso 21, ne sw sw 4-14s-15w	138	3072
SEDGWICK COUNTY—		
Ted Spencer, Samuels 1, se ne nw 24-25s-1e	*	lcn.
STAFFORD COUNTY—		
Stanolind, Spangenburg 1, nw nw nw 29-22s-11w	835	3632
SUMNER COUNTY—		
Derby Oil Co., Rietz 1, ne nw sw 25-31s-2e (otd 1890)	798	2708
Slick, Pryor & Lockhart, Peasel 5, cn½ n½ nw 33-31s-1w	233	3689
Peasel 6, ne ne nw 33-31s-1w	651	3671
Deal O&G Co., Longbell Lumber Co. 1, csl se se 11-32s-2e	293	3078
Shell, Emerich 3, se sw ne 14-32s-2e (otd 2086)	954	2958
Scroggins 4-A, se se nw 14-32s-2e	11,042	2897
WOODSON COUNTY—		
Conley & Cooper, Estes 9, se nw nw 7-24s-14e	50	1731

*Failures; †Junked; ¶Million cu. ft. gas.



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had a showing of oil from 2974 to 2980 feet and drilled to 2984 feet, where it had 700 feet of oil in the hole. Swabbed to bottom it yielded at the rate of seven barrels of oil per hour. Franco-Central Oil Company's Shonyo 1, SW SW NE 11-18s-10w, topped Oswald lime at 2942 feet and was drilling below 3160 feet with no showings reported.

In the old Raymond pool of southwestern Rice County Skelly Oil Company has completed its Graham 1, SE¼ 16-20s-10w, for 1489 barrels from Arbuckle (siliceous) lime. It is the largest well in the pool which was discovered several years ago and has had slow but almost continuous development.

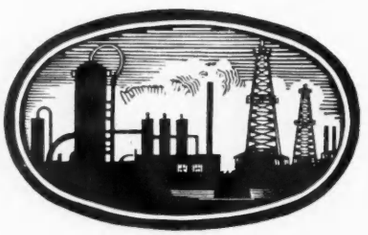
Marathon Oil Company has staked location for Mueller 1, SW NW NE 30-24s-4w, one location east and two north of the discovery well in the Haven pool of eastern Reno County. The discovery well, Haynes Bros., et al's Mueller 1, SE SE NW 30-24s-4w, was completed for 408 barrels in 24 hours from Mississippi chat topped at 3350 feet. After a good showing in that horizon the test was drilled ahead to 3701 feet and plugged back to 3399 feet.

Ellis County Wildcat Watched

Wolf Creek Drilling Company et al's Schmidtberger 1, SE NE SE 24-12s-16w, northeastern Ellis County, topped Oswald lime at 3011 feet, had showings of oil at 3032 and 3085 feet, topped Arbuckle (siliceous) lime at 3290 feet and set 6⅝-inch casing at 3295 feet. It was drilling ahead below 3411 feet and probably will be plugged back to further test the Oswald showings.

In the Ruder or Schoenchen pool of southern Ellis County, Tom Palmer, Storm King Oil Company et al's Ruder 3, SW NW NE 17-15s-18w, pumped 1506 barrels in 24 hours from a break in the Oswald lime at 3275 feet. It is the third completion in the new pool. Ruder 4, NW SW NE 17-15s-18w, a south offset to Ruder 3, is a new operation.

Margay Oil Company et al's Bemis 1-B, SW SW SW 15-11s-17w, west offset to the discovery well in the Bemis pool of northeastern Ellis County, drilled to 2792 feet and stopped to run 10-inch casing in what is believed the top of the Topeka lime. The discovery well, Louis Roark et al's Bemis 1, SE SE SE 16-11s-17w, topped Topeka lime at 2830 feet, was drilled to 3040 feet and completed for 514 barrels initially. On a potential gauge it did 631 barrels in 24 hours. Roark sold his interests in the block shortly after completion of the discovery well at a reported $40,000 in cash and the same amount in oil. Bemis 1-B is the second test in the new pool.



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DEDUCTION RULE

Texas pipe line wants two percent allowance

Austin, Texas.—A hearing in the federal court at Austin on February 7, has been scheduled in the case of Texas Pipe Line Company versus the Texas Railroad Commission. The suit was brought to attack the validity of "Rule 9" which governs the deduction allowed for oil moved by pipe line.

The rule provides that oil be measured on 100 percent tank tables with allowance of one percent to be deducted for losses in transit. The old rule allowed two percent, one percent of which was to allow for shrinkage due to strappage of the tanks. The pipe line companies contend that this additional deduction is necessary to fairly compensate them for losses actually sustained.

COAST A. P. I.

Spring meet April 14 at Los Angeles

Los Angeles.—The Pacific Coast District of the Division of Production of the American Petroleum Institute will hold its annual spring meeting in Los Angeles on Tuesday, April 14, it is announced by Bruce Barkis, district chairman.

Two technical sessions will be held, the morning session being devoted to production practice, and the afternoon to drilling practice. The chairman of the program committee, W. C. Whaley, Barnsdall Oil Company, is interested in securing technical papers to be presented at these group meetings and will welcome suggestions.

The annual banquet will be held in the evening, at which time no technical papers will be presented.

Further plans will be announced later.

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Drilling Ahead

SEMINOLE WILDCAT READY FOR EARLY SHOWDOWN

WEEKLY STAFF REPORT

Midland.—Drilling was in progress below 3320 feet late last week on W. T. Walsh, Harry Adams et al's Averitt 1, first test for the Seminole structures, Gaines County, after successfully sidetracking junk that threatened to force the drilling of a new test.

Favored with good luck the owners drilled by a string of tools and bailer at 3142 feet and lowered seven-inch casing below the junk thereby paving the way for an early decision on the ability of the geophysical prospect to produce from the Permian lines horizon.

Difficulties arose from high pressure gas production found above and below the Yates sand zone. Presence of gas have enhanced the prospects for production being developed in the dolomite lime section.

Leases within and near the town of Seminole commanded cash bonuses ranging up to $100 per acre last spring based on geophysical data, and nearly all desirable acreage is now held by companies that will develop their holdings in the event of production.

Another prolific well for the north end of the Waddell field, Crane County, was in process of completion late last week. Gulf Production Company's W. N. Waddell 12, NEc Section 10, Block B-23, P. S. L. Survey, responded to one-foot penetration of the lime pay topped at 3500 feet with an average flow of 27 barrels per hour. Several of the largest wells in West Texas, excepting the Yates field, were completed recently in this area after drilling about three feet into the porous lime formation. The new producer will be deepened.

Potential rating of the Gulf-McElroy area, straddling the Crane Upton County line, was enlarged last week by the completion of Gulf Production Company's J. T. McElroy 124, which swabbed and flowed 2873 barrels initial on proration gauge after shot in lime. The hole was plugged back from 2944 feet to 2924 feet, and excluded bottom hole water.

Rated as a key well to the starting of an active drilling campaign in the north portion of the Goldsmith field, Ector County, W. H. Dunning, Jr., et al's C. Scharbauer 1, SEc SW¼ Section 33, Block 44, T-1-N, developed gas flow rated at 30,000,000 cubic feet daily at 4023-30 feet. It is about 200 feet above the projected oil horizon. Owners of comparatively small leases in this area have been awaiting the completion of an oil producer before undertaking developments. Phillips Petroleum Company and Pure Oil Company's Clyde Cowden 3, located on the southeast edge of production, recorded an initial flow of 555 barrels natural through tubing from lime at 4173-4182 feet.

John W. Emch, San Angelo, and others are concluding negotiations for the drilling of a wildcat in eastern Upton County, about 10 miles northwest of the Big Lake field and due west of a structure in Reagan County that has been given several unsuccessful tests. Location will be assigned to Section 47, T. C. Ry. Survey, Block Y, according to reports.

Lou G. Stogner, Amarillo, et al have contracted to start operations by March 15 on a 6500-acre block, centering on the Roosevelt-Googins tract, Yoakum County. Contract calls for the drilling of a 5500-foot test. Location will be in the NE¼ Section 215, Block D, John H. Gibson Survey, about 15 miles northwest of Honolulu Oil Corporation and C. J. Davidson's L. P. Bennett 1, which has been idle since last September, owing to outside litigation, after indicating a commercial oil producer from lime at 5090 feet. Operations are to be resumed on the latter well early in February, according to the owners.

NEW OSBORNE WELL

Pampa, Texas.—Skelly Oil Company scored its first producer in the north extension of the Osborne field, Wheeler County, with the completion of M. Harvey 1, NEc NW¼ Section 72, Block 13, H&GN Ry. Survey, flowing 301 barrels initial from granite wash at 2111-2138 feet. It has an elevation of 2191 feet. Ben G. Barnett et al's J. P. Patterson 1-B, direct north offset, logged first oil at 2107 feet, with an elevation of 2181 feet, and was rated at 25 barrels oil daily prior to drilling into water at approximately 2141 feet. Phillips Petroleum Company's L. Gregg 2, NWc N½ NE¼ Section 72, or an east offset to Harvey 1, recorded oil saturation at 2074-2102 feet, and is preparing to pump. The latter swabbed 45 barrels oil during first hour, then averaged 25 barrels hourly for three hours. It has an elevation of 2164 feet.

Sparsely drilled acreage in the Dial section, northern Hutchinson County, contributed an oil producer above the average in size the past week. Daw Oil Company's J. T. Hodges 1, SEc E½ SE¼ Section 14, Block XO2, L. A. Patillo Survey, produced at rate of 900 barrels daily on seven-hour swabbing test after 470-quart nitro shot in dolomite lime at 2963-3023 feet. It has an elevation of 3111 feet.

Drilling was in progress below 6540 feet on Phillips Petroleum Company's L. M. Hughes 1, near C NE¼ Section 4, Block H, J. H. Stephens Survey, Hall County, late last week, logging granite wash and shale formation. No production was encountered when the hole was tested at 6312 feet, or 4087 feet below sea level, after cementing 9⅝-inch casing with 1057 sacks of cement at 6305 feet. This wildcat will be carried to the Ordovician limestone series, according to reports, unless solid granite is found above the projected goal.

PANHANDLE DEEP TEST

Pampa.—Phillips Petroleum Company is preparing to drill an Ordovician lime test several miles northeast of the original Shamrock oil and gas field, Wheeler County, having recently leased about eight sections involving approximately $24,000 in cash bonuses. Location will be on the G. W. Porter 640 acres, C NE SW Section 35, Block A-8, H.&G.N. Ry. Survey. The block lies on the northeast flank of the Granite Ridge. An abrupt dip occurs in the structure extending away from this buried granite mountain range that extends from northwest to southeast across the Texas Panhandle.

WEST TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ANDREWS COUNTY (Means Field)—		
Humble, J. S. Means 6	731	4546
ECTOR COUNTY (Goldsmith Field)—		
Phillips Pet. Co.-Pure Oil Co., Clyde Cowden 3	555	4182
ECTOR COUNTY (Wildcat)—		
Crafton Oil Co., E. F. Cowden 1	*	4365
FISHER COUNTY—		
Geo. Callihan & O'Donnell, L. M. Huddleston 1	*	3162
Gen'l Crude Oil Co., E. G. Yeung 2	100	3109
GARZA COUNTY—		
Grisham-Hunter Corp., W. Sullivan 1	*	3007
HOWARD COUNTY—		
Ambassador Oil Corp., C. D. Read 7	720	2755
Ed. S. Holman, Inc., TP Land Trust 2	658	2332
Sinclair Prairie, Dodge 28	660	2828
PECOS COUNTY—		
Phil Broun et al, Tippett 1-D	720	1428
UPTON COUNTY—		
C. C. Duffey-Storey & Freibele, McClintic 6	531	3056
A. E. Lynch et al, Sherk 1	*	3010
Gulf, J. T. McElroy 124	2873	2944
TP Coal & Oil Co., Lane 20-A	669	2080
TP & The Texas Co., Lane 7-E	50	2280
WARD COUNTY—		
California Co., J. L. Costley-Walling 3	693	2530
Empire G&F Co., McDonald 1	864	2513
Humble, W. P. Roach 1	500	2593
WINKLER COUNTY (Sayre Field)—		
Mid-Continent Pet. Corp., Howe 8-A	779	2988

*Failures; †Junked; ¶Million cu. ft. gas.

TEXAS PANHANDLE

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CARSON COUNTY—		
Alma Oil Co., G. W. Eller 1	¶4	3801
GRAY COUNTY—		
Conoco, Carrie Wright 14	1250	2895
Dixon Creek O&R Co., W. M. Castleberry 1-B	126	3227
Kewanee O&G Co., J. S. Morse 4-C	338	2624
R. E. Smith-Rest 18	521	3250
Magnolia, Raymond Harrah 10	319	3233
Shell, T. B. Haggard 2	604	3304
Sinclair Prairie, T. C. Neal 1	287	3291
WHEELER COUNTY—		
Barnes & Green, C. C. George 1	¶48.4	1950
Smith Bros. Ref. Co., Inc., Johnson 3	2230	2529
Skelly Oil Co., M. Harvey 1	301	2138

*Failures; †Junked; ¶Million cu. ft. gas.

WILDCAT MAY FLOW

Sand Hills Ordovician well more promising

San Angelo.—Development of flowing production from the Ordovician lime horizon by Gulf Production Company's Waddell et al 1, western Crane County deep test on the Sand Hills structure, appeared more promising the past week when the well made small heads of pipe line oil through bridge formed after 140-quart nitro shot at 5979-6050 feet. The hole bridged to 5984 feet. This well is the first in West Texas to produce from the Ordovician outside the Big Lake field, and has been in process of completion since mid-December, having plugged off the Ellenberger section at 6317-6450 feet because of sulphur water. Nitro shot in lime section of the Simpson at 6186-6300 feet failed to increase the oil yield, and the second shot was placed in the sand zone, which carried the best oil saturation in recovered cores.

Plugging orders have been issued for the deepest of the Ordovician wells in in the Big Lake field. Group One Oil Corporation's University 3-B, originally completed in 1930 at 8633 feet and deepened at intervals to 9020 feet, failed to yield commercial production when plugged back to 8300 feet, then sidetracked and re-drilled to 8650 feet.

Resumption of drilling on John I. Moore, Loffland Brothers et al's L. S. McDowell 1, Glasscock County projected Ordovician lime test, was slated for the past week end, with the hole bottomed at 10,115 feet. Operations were suspended last August after developing small flow of oil by heads through the treatment of the Pennsylvanian lime with acid.

NORTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARCHER COUNTY—		
Bonner Oil Co. & Kelleher, L. F. Wilson 1, sec 101	*	1600
L. T. Burns et al, Texas Land & Mtg. Co. 1	*	1500
Turbeville 13, blk 152	140	1525
Turbeville 14, blk 152	105	1516
Turbeville 11-E, blk 124	30	1341
Burns & King, J. S. Matlock 1, sec 25	*	693
Fain-McGaha Oil Corp., McCrory 2-F, blk 22	*	1633
J. C. Hamer et al, W. S. Ikard 1, sec 1869	*	937
Kriss & Cockburn, J. L. Anderson 2, blk 18	12	1423
E. S. McLaughlin et al, Garrett 2-A	*	729
Perkins-Cullum Oil Co., C. L. Abercrombie 19, blk 157	35	1015
The Texas Co., Bert Lowry 1	*	1587
BAYLOR COUNTY—		
Bell O&G Co., Mills 1, sec 2492	*	1514
Evans & Collins, Mrs. G. Longley 1	*	1850
COOKE COUNTY—		
Merrick Drlg. Co., Knabe 18, blk 6	27	805
Stelzer 6	5	861
Mudge Oil Co., Johnson 3-A	40	1140
R. W. Trew 3-B	12	788
Murray Inv. Co., Rhomer 3	35	942
Pace Pet. Co., R. E. Aldridge 4	*	1183
JACK COUNTY—		
John T. Cox et al, L. W. Scott 1, blk 12	*	785
Singer Steel & Metal Co., M. E. Hester 1	¶5½	3041
MONTAGUE COUNTY—		
Bridwell Oil Co., McGaughey 1-A	*	1924
Roy I. Carter et al, R. W. Cunningham 17	20	925
Concco & Seitz-Comegys, Inc. Hott 11	109	1643
THROCKMORTON COUNTY—		
Bearman Oil Co., Kirk Ledbetter 5	15	799
Kirk Ledbetter 6	10	780
Kirk Ledbetter 9	10	751
WICHITA COUNTY—		
Golding & Cochran, Waggoner Bros. 16-C, blk 17	6	1328
H. L. Rugley et al, Waggoner Est. 6, sec 148	217	1597
YOUNG COUNTY—		
A. L. Cato et al, Dora Logan 1, sec 234	*	1090
B. C. Gilmore et al, Jennings 1	*	755
Gorsuch Oil Co., Matthews 17	15	725
King Royalty Co., C. W. Johnson 18, blk 15	*	595
Nash & Windfohr Oil Corp., E. Atwell 4, sec 3407	*	4023
W. H. Sharp et al, Belknap Coal Co. 1, sec 8	*	501
The Texas Co., Belknap 4, sec 23	65	668
Underwood Drlg. Co.-Campbell, Campbell 14-C, sec 3401	150	891
Campbell 15-C, sec 3401	50	892
Campbell 16-C, sec 3401	*	939

*Failures; †Junked; ¶Million cu. ft. gas.

TAFT HEARING

Austin, Texas.—A hearing will be held before the Texas Railroad Commission at Austin, on January 29, to fix rules for the spacing, drilling, completion, and operation of wells in the new Taft field in San Patricio County.

47 COMPLETIONS

Eight East Texas wells fail to flow natural

WEEKLY STAFF REPORT

Tyler.—Total of 47 completions were credited to the East Texas field the past week, including a failure on the northwest edge of the structure in Upshur County. Eight of the new producers failed to attain a natural flow, and will require the installation of lifting equipment.

L. C. Collins, Gray and Wolfe's Caddie Fisher 11, located on the north line of 134.67-acre lease, John Ruddle Survey, Gregg County, has halted operations in shale at 3434 feet and may be abandoned. It is on the east side of the field, and failed to log Woodbine sand after breaking through the cap rock at 3416-17 feet. Magnolia Petroleum Company's Fisher 11, a north offset, is changing to cable tools at 3430 feet as a safeguard against passing up a thin pay zone.

Perot Oil Corporation, Waco, developed an 18-barrel pumper in completing W. P. Howeth 1, SWc 25-acre lease, M. V. Pena Survey, situated in the extreme east edge of the Joiner area. Broken sand was logged at 3545-50 feet and at 3605-13 feet, with the hole bottomed in Georgetown lime at 3651 feet. Sun Oil Company's H. A. Pace 30-B, located on 637.45-acre lease, Juan Vargas Survey, near west edge of production in Smith County, filled 500 feet with oil and 2500 feet with salt water after drilling about one foot into Woodbine sand topped at 3807 feet. Pumping equipment will be installed to determine if the well is capable of commercial production.

EAST TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
JOINER AREA—		
Big Indian Synd. (T. B. Reese, Rec.), Wolford 15 (40-ac)	3500	3761
W. H. Gant-Garvin-Wegener, Hale 8 (139-ac)	700	3565
Genro Drlg. Co.-Sam Roosth, J. C. Bateman 6 (38.9-ac)	1500	3808
Humble, V. Turner 4-B (23-ac)	1500	3741
Mabee Consolidated Corp., J. P. Maxwell 6-B (40-ac)	160	3670
Marathon, H. L. Griffin 10 (65.61-ac)	480	3717
F. H. Markey et al, Rusk Co. School 1 (1-ac)	3000	3627
Perot Oil Corp., Howeth 1 (25-ac)	18	3651
Royal Pet. Corp., J. W. McDavid 1-A (57.48-ac)	1000	3560
Sinclair Prairie, Allen Kersh 3 (155-ac)	240	3643
J. B. Sneed & Co., E. Rollins 3 (18-ac)	5000	3683
Sun, H. Schuyler 6-B (74.78-ac)	2000	3698
The Texas Co., Overton State Bank 18 (160-ac)	5500	3728
Texas Gulf Prod. Co., Hodnett-Melton 6 (134.84-ac)	2500	3714
Texokana Oil Co., H. Kersh 3 (50-ac)	600	3638
KILGORE AREA—		
Arkansas F. O. Co., Hughey-Ross 29 (220-ac)	7000	3590
J. Beren et al, Kennedy 4 (20-ac)	4000	3681
E. Constantin & Co., J. M. Mayfield 3 (44.18-ac)	15	3679
Gulf, A. Spear 35 (277.56-ac)	6000	3606
Hastings & Dodson, E. B. Florey 3 (25-ac)	500	3652
C. L. McMahon et al, Spear-Laird 17 (92¼-ac)	10,000	3678
Meco Prod. Co., F. Cooper 7 (62-ac)	2500	3664
Midfield Oil Co., E. Benson 2 (37-ac)	2000	3778
Shell, B. F. Laird 26-A (211.31-ac)	8000	3535
Sinclair Prairie, A. A. King 18-B, Tr. 3 (90¾-ac)	7500	3475
Sun, Grant Reese 17 (124.22-ac)	8400	3675
LONGVIEW AREA—		
Amerada, E. Burnsides 15 (100-ac)	7000	3562
Arkansas F. O. Co., W. E. Bolton 8-A (56.66-ac)	7200	3526
J. C. McKinley 8-C (54.7-ac)	9000	3614
G. B. Tenery 3 (20.85-ac)	3000	3593
Burk Royalty Co., Moore 5 (15-ac)	6000	3612
Cliff Camp Drlg. Co., A. A. Castleberry 1 (41.81-ac)	600	3616
H. W. Clarkson et al, E. O'Byrne 5 (46-ac)	2500	3626
Day & Co., B. Victory 5 (40-ac)	1000	3677
Deep Rock Oil Corp., H. Pritchard 6 (40-ac)	8500	3551
Eastern Texas Pet. Co., T. J. Dunbar 23 (169-ac)	750	3610
Empire G&F Co., J. T. Jeter 13 (123-ac)	3500	3596
R. W. Fair & Thompson, A. H. Tubbs 7 (52-ac)	275	3611
Lucey Pet. Co., A. M. Kinsell 6 (47-ac)	5000	3665
Magnolia, Betty Doby 12 (42.85-ac)	8800	3770
D. G. Sparks 7 (52.3-ac)	160	3686
R. B. White 22 (81-ac)	9500	3526
Margay Oil Co., Victory 11 (87-ac)	9600	3642
A. O. Phillips et al, Victory 10 (35.6-ac)	1000	3635
Sinclair Prairie, Akin 17-B (100-ac)	11,000	3575
Southland Drlg. Co.-United E&W Oil Co., O'Byrne 28 (304-ac)	3600	3707
Stanolind, Floyd Jones 8 (51-ac)	10,000	3671
Stanolind-Simms Oil Co., H. Key 13 (90.6-ac)	9000	3588
Sun, J. T. Loden 13 (100.58-ac)	7200	3673
Twin Oil Co., C. J. Mackey 5 (59.2-ac)	1200	3716
J. K. Wadley et al, E. L. Gillespie 4 (189-ac)	*	3700
ANDERSON COUNTY (Cayuga Field)—		
Cayuga O&G Co., A. G. Williams 1-E (93.4-ac)	125	4079
Tide Water & Seaboard Oil Corp., G. W. Ware 6 (571.65-ac)	2000	4092
ANDERSON COUNTY (Long Lake Field)—		
Champlin-Bass, Inc. and Jim Patton & Phillips, J. W. Foche 1	¶50	5350
VAN ZANDT COUNTY (Van Field)—		
Pure Oil Co., A. R. Humphreys 6		

*Failures; †Junked; ¶Million cu. ft. gas.

New Discoveries

TWO NEW SOUTH TEXAS FIELDS OPENED; OTHER WILDCATS SHOW

WEEKLY STAFF REPORT

San Antonio.—Outstanding developments in Southwest Texas the past week included the testing of the third Loma Novia sand strike in Duval County during 1936, completion of the two previous Loma Novia sand discovery wells in the county, and the opening of a new field in Starr County just above the Mexican border line by a gas well that is running wild. The result of recent strikes in the Corpus Christi district was reflected by the gain of the area's activity to a new peak with a total of 31 drilling operations for Neuces County. A wildcat in Jim Wells County cored 28 feet of gas, and the Saxet field was extended into Clarkwood townsite.

DUVAL STRIKES

Three important wells are found productive

Laredo.—Duval County's third Loma Novia sand strike of the year was tested late in the week, indicating some sort of an oil producer. It either opens a new field or establishes an important extension to the proved portion of the Loma Novia Field, two miles to the west.

The well is the Santa Clara Oil Company's (Atkins & O'Neil) J. F. Welder Heirs 1-A, which topped the sand at 2915 feet. It showed gas to 2918 feet and oil to 2921½ feet, the bottom of the hole. A drill stem test developed 260 feet of pipe line oil and no pressure in 12 minutes and casing is being run.

It is located 330 feet from the southwest corner of the northwest quarter of Section A out of Section 103.

Rogers & Rogers' J. D. Sutherland 1, in the east corner of Section 120, several miles south of the Loma Novia field and west of the Hoffman gas area, also Duval County, was completed several days ago for an initial flow of approximately 20 barrels of oil per hour through ½-inch choke from the Loca Novia sand at 2863-85 feet to open a new pool or a material southwest extension to the Loma Novia field.

Several days prior to the completion of this well, Westheimer and Daube's Z. Campos 2, nearly a mile east of the Seven Sisters field, was completed in the Loma Novia sand at 2687 feet, where it flowed 25 barrels per hour through ⅜-inch choke, showing 500 pounds casing pressure and 200 pounds tubing pressure. It also opened a new producing area.

The success of these wildcats further increases interest and activity along the Government Wells trend and suggests that the entire Government Wells group will be merged into one field with possibly a few dry spots. Already drilling operations are near the 100 mark with further increases in prospect.

The Loma Novia field proper continues its active development program with a number of excellent completions being included in the week's work.

Across the line in Webb County interest was closely centered around the Superior Oil Company of California's A. S. Billings 1, in the southeast corner of Section 7, one mile west of the Lopez field.

The well cored salt water and gas sand at 2305 feet and is running an electric formation tester.

Lopez field proper has settled down to a steady development campaign, although several outpost wells, one to two locations from the proven area, are drilling. A half dozen wells were completed or in process of completion during the week.

Cole field's interest has been drawn to the Cole Petroleum Company's Benavides 16 and 93 which are being drilled to test the 2900-foot sand just north of Bruni recently opened by this company. One well made an initial flow of 5 barrels per hour. The remainder of the field has slowed its activity to the lowest level in nearly two years.

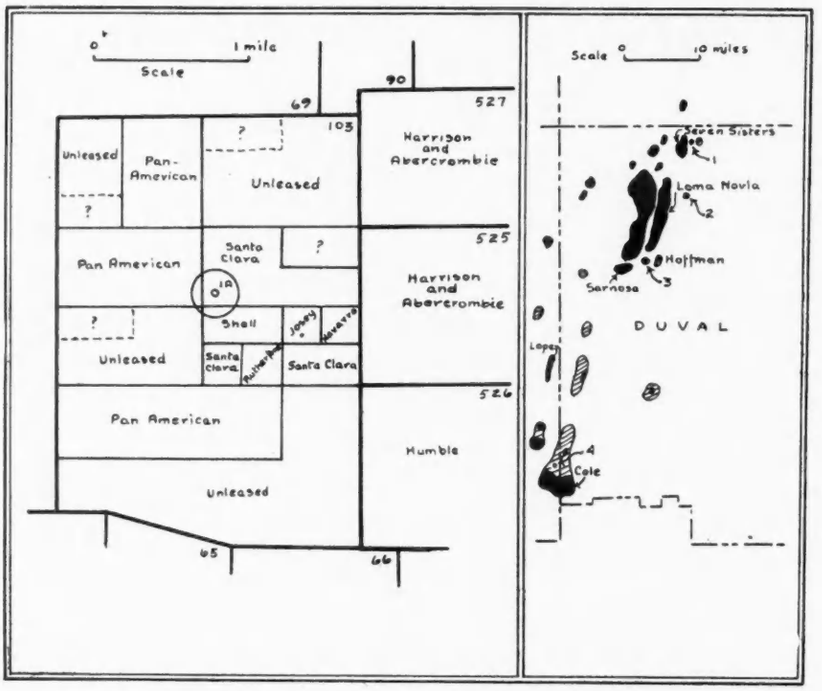
NEW VALLEY FIELD

Starr County wildcat is blowing wild

Mission.—Rio Grande Valley added another wild well to its list when A. J. Weyel, Trustee's Wardner (Woods) 1, several miles southeast of Rio Grande City in Starr County, blew out at 2040 feet. The well has been out of control for approximately a week blowing lots of gas, a slight bit of oil and lots of salt water. The water apparently is coming from the shallow sands.

There is only a short string of surface casing in the hole and it may crater at any time.

The well is 2000 feet north of the



Map shows lease subdivision in vicinity of newly discovered Loma Novia sand producing area in northern Duval County. Question marks on a spread of acreage reported to have been acquired by a major company but the deal has not been fully completed. The general map indicates strikes on this trend during 1936: No. 1 Westheimer & Daube's Z. Campos 2; No. 2 Santa Clara Oil Co.'s Welder 1-A; No. 3 Rogers and Rogers' Sutherland 1; No. 4 Cole Petroleum Co.'s Benavides 92.

river (Mexican boundary) and 750 feet from the west line of Porcion 84. It indicates a new producing area when finally controlled. The sand, while not defined is possibly the Samfordyce horizon or deeper.

Farther east of this well, John Clopton et al's Roos and Bennett 3, Porcion 92, drilled to 4003 feet, set 5 inch casing at 2650 feet and will perforate at 2451-64 feet. This well is expected to open a new Samfordyce sand producing area.

The Samfordyce field, still farther east, continues to be widened to the northwest. Phillips Petroleum Corporation has commenced Garcia Land and Cattle Company 2, in the west one-half of Porcion 100, 250 feet from production.

Sun Oil Company's M. Guerra and Sons 10-A, 500 feet north of production in the Cuevitas field, Starr County, has the sand at 2259-74 feet. It showed 400 feet of oil and some gas on a drill stem test and casing has been set atop the sand.

PETTUS ACTIVE

Beeville. — George M. Church has succeded in clearing the hole in Webb-Hearn 1, 2000 feet southeast of the discovery well of the Beeville area, Bee County, and is making preparations to complete. The well drilled to 5935 feet and will perforate casing at 5900-14 feet. It will test a showing in the Conroe sand at this level.

Several new producers were added to the Caesar and Dirks fields during the week, normal activity for that sector of the Pettus district.

A hot wildcatting play centering several wildcats in southwestern Live Oak County is interesting. A heavy demand was indicated for acreage spreads in this immediate sector. The area around George West, however, cooled materially when Earl Callaway et al's Moczygemba 1 was abandoned at 4409 feet, last of a series of three tests drilled on this structure by Callaway and associates.

Activity at Peak

CORPUS AREA WORK IS UP WITH SAXET FIELD IN LEAD

Corpus Christi.—With a total of 31 drilling operations reported in Nueces County, Corpus Christi district's activity reached the highest level in history. Saxet Heights provided the largest number of new tests during the week to spread work over an area of several miles.

Other important developments in the limelight during the week were the coring of 28 feet of gas sand in a waldcat one half-mile north of the San Diego area, Jim Wells County, coring of oil sand in several wells in the Plymouth field, announcement of a proposed repressuring project in the Greta field, and commencement of an interesting wildcatting play in western Victoria County.

J. K. Culton's Mrs. M. Whelan 2, west side of the Saxet Heights field, was not fully completed late in the week, but was flowing an estimated 50 barrels of fluid per hour through ¼-inch choke and showing working pressure of 250 pounds on tubing and 500 pounds on casing. The oil volume was about 95 percent. It is bottomed at 4109 feet with casing perforated at 4103-08 feet.

Several locations south of production, Republic Natural Gas Company's Baldwin et al 1 set casing to 4100 feet and will perforate at 4077-84 feet. It topped the gas sand at 4063 feet, oil saturation about 4075 feet, but carried a little salt water at 4096 feet and deepened to 4100 feet for casing seat.

D. H. Hawn is building derrick for a wildcat 3500 feet northeast of production on the William Shely nine-acre tract. It is 220 feet south of the Southern Alkali Corporation's property. Refugio Refining Company's (Garland Clymore) Weil 1, nearly a mile east of the field is drilling around 600 feet.

Saxet Extended

Saxet field was extended into Clarkwood townsite through the completion of Benson & Cargy's Clarkwood 1, center of Block 1, Clarkwood townsite. The well flowed six barrels of oil per hour through 5/32-inch choke from sand at 4400-08 feet, casing set at 4394 feet. It showed pressures of 400 pounds on tubing and 600 pounds on casing. About 20 wells will be drilled on close locations as a result of this extension, it is predicted.

While information is being withheld, it is understood that Santa Clara Oil Company's (Atkins & O'Neil) Sevier 2, west of the discovery well of the Clara Driscoll field, is drilling near the 3700-foot sand in sidetracked hole. The well is supposed to have gone to 3774 feet where casing was set, but collapsed. The well then was whipstocked at 2100 feet.

Magnolia Petroleum Company's J. C. Baldwin 5 in the Baldwin area, also Nueces County, made a drill stem test at 4072-77 feet recovering 140 feet of oil and 510 feet of salt water in nine minutes and has been shut down.

Edwin M. Jones has made application for a repressuring project in the Greta field of Refugio County. He plans to take surplus pressure from the 5100-foot sand and attempt to build up pressure in one of the shallow sands on his lease. He would strip high gravity oil from the gas in transferring it from one horizon to the other.

The Greta-Tomoconnor area continues to be widened by deep wells and a continued campaign is underway by United Production Corporation, Hewitt and Daugherty and Quintana Petroleum Corporation.

Plymouth field, San Patricio County, received one new producer in the 5600-foot sand, but several more were in process of completion in the 5600- and 5900-foot levels. In the 5900-foot sand, Magnolia Petroleum Company was finishing one well, while Sun Oil Company was testing two. Plymouth Oil Company's Welder 27-C flowed 225 barrels of oil per day through 5/32-inch choke from 5625-39 feet, while two more were being completed by this company in the same horizon. Sun Oil Company was ready to gauge Hunt 5, completing at 5620-30 feet.

George E. Smith's Britton 2, offset to the discovery well of the Taft field, was coring for the 4900-foot sand at last reports. It is the second test for this area.

Victoria County is showing signs of reviving its wildcatting play with several blocks on the west side of the county in the immediate vicinity of the town of Victoria becoming active.

L. A. Douglas et al's I. N. Mitchell Estate 1, one mile southwest of Lolita in Jackson County, has been abandoned at 6047 feet.

Continental Oil Company is making unusually rapid progress in its heaving shale project in Calhoun County. Moody 2-A was last drilling at 7850 feet, more than 1400 feet below the last string of casing. It is using a special type of circulating valves on special casing-drill pipe.

Houston Oil Company et al's E. A. Hawkins 2, one half-mile north of the discovery well in the San Diego field, Jim Wells County, showed 350 pounds gas pressure on a drill stem test at 2955-71 feet. Its full sand section was 2952-80 feet. The well is drilling ahead below 3250 feet.

FINISH TWO LINES

South Texas work being completed; plan others

San Antonio.—Two pipe line projects are being rushed to completion in South Texas and still a third is rumored as being planned for immediate construction. All will give outlets to areas where present facilities are highly congested.

A group of Duval County crude oil purchasers have let contract to N. A. Saigh Construction Company for the building of a 5¼-inch line from the Loma Novia field to San Diego, a distance of 23 miles. The backers of the line have not been made public, although it is definitely known that among those in the deal are at present in the foreign oil export business.

Rumors are that this line ultimately will be extended to the Corpus Christi deep water port, but such plans have been withheld by the owners.

The line will include one pump sation in the field, foundation for which has been poured. The pump station will be powered by Diesel motors. Loading racks, storage, etc., will be erected at San Diego. Much of the ditching work has been completed and the line will be ready for use early in February, one of the fastest pipe line construction jobs ever attempted in South Texas.

The other line being rushed to comple-

tion is the one in which Sinton Pipe Line Company and The Texas Pipe Line Company are associated. The Texas organization already has an eight-inch line from the Greta field to Refugio field, a distance of 10 miles and has just finished an extension of eight-inch pipe 16 miles to the Plymouth field, where it will tie into The Texas Pipe Line Company and Sinton Pipe Line Company's project to the Corpus Christi terminal of The Texas Company, where three 80,000-barrel storage tanks are now under construction. The new section of the line is 17½ miles long and is of eight-inch welded pipe.

The Texas Pipe Line Company recently acquired 55 percent of the stock of the Sinton Pipe Line Company, promoted by William F. Morgan.

The rumored project is an outlet to the Pearsall field of Frio County, where Amerada Petroleum Corporation completed a producer rated at more than 10,000 barrels per day from the Austin chalk at 5655 feet. The potential of the field, which has six producers in three horizons is likely in excess of 15,000 barrels per day, including high and low gravity oil. The line, as the rumor goes, is to be extended to Humble Pipe Line Company's pump station at Lytle, a distance of about 35 miles. The Humble line connects West Texas with tide water at Inglesides. The Amerada Petroleum Corporation is drilling three tests in the Pearsall field and Thornton Davis is drilling one.

GAS HEARING

Dallas.—District Federal Judge William H. Atwell announced here January 21 that constitutionality of the Texas anti-waste gas statute will be considered by a three-judge federal court in Houston January 31.

Sunray Oil Company, Shamrock Oil & Gas Corporation, and Portland Gasoline Company are the firms whose applications for interlocutory injunctions will be heard.

SOUTH TEXAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BEE COUNTY—		
Illinois Pet. Co., I. Hall 4, T. J. Butler sur (Dirks)	425	3912
Luling O&G Co., B. B. Ruhmann 1-D, 330 ft sel, 660 ft nel lot 22, J. M. Thurston sur, ne of Caesar field	*	3450
Sun, R. E. Borroum, Baker sur (Caesar)	200	3092
BEXAR COUNTY—		
A. J. Byrne, Herman Neuman 1, 450 ft n of Frio City road and 150 ft wl of tract, L. Munoz sur No. 66	*	850
Burt Mowinkle, Joe Kotzur 1, 432 ft nl, 150 ft wl, S. F. Longavill sur, tract measurements	*	870
Richcul Oil Co., C. H. Terrell 6, Simpson sur (Von Ormy)	5	700
CALDWELL COUNTY—		
Ogden & Reed, C. L. Lackey 1, 1070 ft sel, 150 ft nel of 193.75-ac tr, S. Damon sur	*	2581
Sun Oil Co., J. W. Meiars 1, 330 ft nel & sel of 49.5-ac tr, C. W. Swearingen sur	*	2328
CAMERON COUNTY—		
J. F. Anderson, Turfitt 1, 330 ft nl and el of blk 397, San Benito sub, Espirtu Santo gr	*	5194
DUVAL COUNTY—		
Atlantic, Welder 8-A, sec 385 (Seven Sisters)	500	2537
Geo. Coates, Telford 1, sec 386 (Seven Sisters)	*	2778
Rodney Delange, Bishop 5, sec 76 (Loma Novia)	300	2746
Duval Oil Corp., L. B. Moody 3-B, sec 76 (Loma Novia)	750	2622
L. B. Moody 8-B, sec 76 (Loma Novia)	650	2577
L. B. Moody 11-B, sec 60 (Loma Novia)	750	2577
Claude Hamill et al, C. W. Hahl 11-C, sec 63 (Loma Novia)	480	2601
Highland Oil Co., Wm. Hubbard 5, sec 75 (Loma Novia)	200	2582
Humble, R. Serna Jr 4-A, sec 384 (Seven Sisters)	500	2487
Magnolia, Duval Ranch 4, sec 100 (Piedra Lumbre)	60	1968
Montour Prod. Co., Wm. Hubbard 3, sec 75 (Loma Novia)	50	2610
Rogers Oil & Gas Co., J. D. Sutherland 1, 330 ft sl and el sec 120, near Hoffman district, opens new sand	600	2885
Santa Clara Oil Co., J. F. Welder Heirs 3, sec 385 (Seven Sisters)	1500	2488
Santa Clara & Henderson, Welder 6-C, sec 381 (Seven Sisters)	800	2416
Smith & Hamill, M. C. Hubbard 32, sec 77 (Loma Novia)	600	2701
Texas Co., M. Vela 13, sec 42 (Loma Novia), pb 2591	¶10	2659
M. Vela 19, sec 42 (Loma Novia)	500	2654
H. Wendt 7, sec 68 (Loma Novia)	600	2679
H. Wendt 14, sec 68 (Loma Novia)	350	2752
Westheimer & Daube, Z. Campos 2, sw ne sec 224, ¾ mi e of Seven Sisters, opens new sand	800	2687
HIDALGO COUNTY—		
Hill & Hill, Guerra 2, sh 254, por 40, (Samfordyce)	500	2780
JACKSON COUNTY—		
L. A. Douglas et al, I. N. Mitchell 1, 150 ft sl and el 335-ac tr, S. F. Austin sur	*	6047
JIM WELLS COUNTY—		
Smith & Son Dr. Co., J. C. McGill 1, N. Gusset sur No. 98 (Armagosa), pb 2330 ft	¶20	2344
KLEBERG COUNTY—		
Clark et al, J. W. Kellam 1, 330 ft sl and wl lot 5, sec 53	*	lcn.
Fidelity Explor. Co. Sam Michalk 1, 330 ft nl, 775 ft el of sec 37	*	3109
LIVE OAK COUNTY—		
Earl Callaway et al, Moczygemba 1, 408 ft nel, 352 ft nwl of lot 122, Geo. West sub, blk A, sec 113	*	4409
McMULLEN COUNTY—		
Luray Oil Co., Glass 7, M. Hely sur (Calliham)	*	1038
V. G. Schimmel, Trustee, E. R. Hagist 1, 330 ft el, 4500 ft nl of big sur 481, ½ mi w Loma Alta	*	2733
MEDINA COUNTY—		
Caraco Oil Co., R. Taylor 3, 2060 ft wl, 1370 ft sl of Brushet sur No. 135 (Taylor)	*	460
NUECES COUNTY—		
Benson & Cargy, Clarkwood Townsite 1, blk 1, Clarkwood Townsite (Saxet)	600	4408
Benson Dr. Co. & Westgate Oil Co., Phillips 1, Villareal sur (Saxet Heights) deepened 3 ft and recompleted	250	4098
Bluff Pet. Co., C. Bluntzer 1, 330 ft sel and swl ne 1007 ac sh 6, Bluntzer Land, Casa Blanca gr.	*	6053
J. K. Culton, Mrs. Margaret Whelan 2, Villareal sur (Saxet Heights)	1500	4109
Tom Graham, Y. M. Donnigan 1, sec 7, range 7 (Saxet), pref csg 4223-43	¶30	4880
Masterson et al, W. Eschberger 1, 330ft sl and wl nw¼ ne¼ Pauls sub, Driscoll Ranch, sec 37	*	6002
Republic Nat. Gas Co., John Dunn 12, Villareal sur (Saxet)	450	4845
SAN PATRICIO COUNTY—		
Plymouth Oil Co., E. H. Welder 27-C, sec 71, Welder sub (Plymouth)	500	5639
STARR COUNTY—		
Barnsdall & Phillips, Yturria 5, por 100 (Samfordyce)	900	2817
O. C. Borah et al, V. C. de Guerra 1, sh 92, por 68	†	125
Henshaw & Roberts (was Cook-Maris-Arnold) Starr County Cattle Co. 1, 220 ft nl, 250 ft el of lot 24, por 89	*	4002
Hiriam M. Reed, Starr County Cattle Co. 1, 880 ft wl, 150 ft nl, blk 66, Jeffries Lambeth sub, por 89	*	3013
WEBB COUNTY—		
Mills Bennett, F. L. Garcia 3, sec 112, (Lopez)	450	2197
G. G. Mortimer, M. Lopez 6, sec 114 (Lopez)	650	2195
Superior Oil Co., W. C. Billings 3, sec 109 (Lopez)	480	2277
Texla Oil Co., S. Benavides 2-B, blk 227, Hale sub, Arispe gr (Cole)	360	2862
ZAPATA COUNTY—		
Nash & Clover O&G Co., A. P. Haynes 6, blk 7, Haynes sub, Comitas gr (Comitas)	30	851

*Failures; †Junked; ¶Million cu. ft. gas.

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HOUSTON » TEXAS

24 COMPLETIONS

Houston.—Completions in the Texas Gulf Coast the past week showed an increase over the previous weeks. Out of a total of 24 completions only four were failures and the remaining 20 were flowing and pumping wells including several workovers. Initial production of the 20 producers was 8,132 barrels.

Texas Coast Quiet

MINOR ANAHUAC EXTENSION ONLY DEVELOPMENT

WEEKLY STAFF REPORT

Houston.—The Texas Gulf Coast witnessed a lull week in wildcat development and was without outstanding developments in any proved fields. Most important development in the area was the reported oil and gas showing in Humble Oil & Refining Company's Langham 1, on the Amelia prospect in Jefferson County. The Anahuac field, Chambers County, came in for its share of minor extensions and developments among the more newer fields.

Humble Oil & Refining Company's Langham 1, Amelia prospect, C. Williams Survey, Jefferson County, was drilling in sandy shale at the end of the week at 6410 feet. There have been oil and gas shows around 6160 feet with the top of the sand at 6150 feet. A sand was reported cored from 6122 to 6133 feet which contained a showing of gas.

In the Anahuac field, Chambers County, Humble Oil & Refining Company's Herbert Broussard B-3 and Marshall 1, extended the field one location east and northeast respectively. Herbert Broussard B-3, an east offset to Herbert Broussard B-2, was drilled to 7085 feet in oil sand with top of the sand found at 7001 feet and the gas sand contacted at 6981 feet. Seven-inch casing was set at 7040 feet. After drilling plugs the well came in at the rate of 495 barrels per day through a quarter-inch choke with 985 pounds on the tubing and 1000 pounds on the casing. The test topped Discorbis at 6079 feet, Heterostegina 6383, Marginulina 6592 and Frio at 6959 feet. As compared with other wells drilled in the area, Herbert Broussard B-3 is running a little lower which might indicate a

TEXAS GULF COAST
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ANAHUAC—		
Humble, Broussard B-3	495	7085
Marshall 1	680	7083
Middleton 12	516	7083
BARBERS HILL—		
D. B. McDaniels, Wilburn 7 (wo)	339	5078
Mills Bennett, Kirby 3-A (wo)	488	5360
BATSON—		
John Deering, Cruse 3	184	5298
BIG CREEK—		
Tran State Oil Co., B. Wheat A-2	*	1702
DICKINSON—		
Pure Oil Co., Schelor 2	*	8481
HANKAMER—		
Cretaceous Oil Co., Ezzell 4	44	2635
Eason & Ward, Lee 1	*	2707
HASTINGS—		
Stanolind, Cannon 1	516	5884
HUMBLE—		
Texas Co., Kohler 39	257	3128
Wilson Oil Co., Burt 3	396	2277
LOUISE—		
Pure, Welder 2	25	5155
MANVEL—		
Texas Co., Belcher B-3 (wo)	400	5122
Belcher B-18	586	5155
Rash 4	216	4300
Uscan Oil Co., France 1	*	4151
PICKETT RIDGE—		
Texas Co., Pierce Estate A-8	624	4710
PIERCE JUNCTION—		
T. G. Shaw, Fitzgibbons 2-B (wo)	710	3723
RACCOON BEND—		
Humble, Belleville 11-X	119	4160
Bracey 2	12	3365
O. Wilson 8-X	1200	4103
TOMBALL—		
Sun, Metzger 4	325	5550

*Failures; †Junked; ¶Million cu. ft. gas.

R.W. BYRAM & COMPANY
ESTABLISHED 1921

PRIVATE INDUSTRIAL REPORTS CONFIDENTIAL

Regulation of the oil and gas industry of Texas by the Railroad Commission and other bureaus has resulted in the accumulation at Austin of records invaluable to operators.

Since 1921 we have been assembling, interpreting, and reporting data filed in this manner.

As the oil industry has developed, so has our business increased. Each year has brought greater need for more data accurately prepared. As conservation rules required additional reports, our service expanded to bring you better statistical information.

PRODUCERS have come to rely on this source for daily reports on permits to drill new wells, completion of these wells, and the allowables fixed for them by the Railroad Commission.

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slight dipping in the eastern direction.

Marshall 1, north offset to Engles 2 and on the northeast side of the field, H. & T. C. Survey, Section 50, was completed at 7083 feet for 680 barrels daily through a quarter-inch choke. Tubing pressure was 1200 pounds and casing pressure 1200 pounds. The gas sand was topped at 6908 feet and the oil sand at 7006 feet. Seven-inch casing was set and cemented at 7041 feet. This test topped Discorbis at 5889 feet, Heterostegina 6192, Marginulina 6432 and Frio at 6904 feet.

The field was being rounded out on the southeast side when Humble Oil & Refining Company completed Middleton 12, H. & T. C. Survey, Section 58, for 21½ barrels per hour from 7083 feet. The oil sand was found at 7025 feet and the gas sand was topped at 6921 feet. The well came in flowing through a quarter-inch choke with a tubing pressure of 2100 pounds; casing pressure 2000 pounds, being one of the largest pressures shown on wells completed in the field. This well topped Discorbis at 5979 feet, Heterostegina 6283, Marginulina 6643 and Frio at 6921 feet.

In the norther Anahuac area, Sun Oil Company has made location for White 7 and 8. White 7 is 467 feet north of the south line and 2333 feet west of the east line and 933 feet west of White 6 in the J. McGahey Survey. White 8 is 1596 feet south of the north line and 900 feet northerly from White 2 in the J. McGahey Survey.

Northwest of the Anahuac field on the northern tip of Turtle Bay, Stanolind Oil & Gas Company was preparing to complete Cooper 1, S. Burney Survey, Chambers County, after drilling to 6625 feet in shale. The oil sand was found from 6601 to 6618 feet and seven-inch casing was set at 6596 feet. This well when completed will extend the new field one location west as it is a west offset to the discovery well. Stanolind Oil & Gas Company's Cooper 1 topped the Discorbis at 5697 feet, Heterostegina 5995 and the Marginulina at 6268 feet. Elevation is 13 feet. The well is running practically flat with the discovery well.

Dickinson Test Abandoned

Pure Oil Company abandoned Schelor 2, 800 feet north of Schelor 1, B. B. B. & C. Survey, at 8481 feet during the past week after having considerable trouble with the hole. This is the first well drilled by Pure Oil Company which was abandoned. The first test drilled by the operators was a producer.

Humble Oil & Refining Company's Maco Stewart A-6, J. Sellers Survey, Dickinson field, Galveston County, the most southern drilling well, was waiting on cement to set at the end of the week at 8440 feet. The operators had perforated casing previously from 8305 to 8325 feet with 20 holes and on a drill stem test from 8305 to 8325 feet showed 1620 feet of gas cut mud in one hour through three eights-inch chokes.

The same operator's Maco Stewart B-3, J. Sellers Survey, drilling on the southwest side of the field was coring sandy shale at 8678 feet at the end of the week. The operators made a drill stem test from 8587 to 8622 feet in 30 minutes. A recovery of 330 feet of mud through quarter-inch chokes was made.

In the W. K. Wilson survey, two and a half miles south of the Dickinson field, Coast Petroleum Corporation has made location for Maco Stewart A-3. It is 660 feet east of Maco Stewart A-1, which is now producing distillate.

In the South Houston field, Harris County, Stanolind Oil & Gas Company has made location for Drilling District 25 and 46. Stanolind Oil & Gas Company's Drilling District 25, is in lot 9, block 111 in the City of South Houston. Drilling District 46, is center of lot 8, block 158, in the City.

In Matagorda County and southeast of Bay City, Hammon Exploration Company's M. Cleveland 1, E. Hall Survey, was drilling in sand with an oil odor after topping the sand at 8547 feet. A drill stem test was made from 8547 to 8558 feet in 22 minutes through quarter-inch chokes. The operators received two joints of 20 pound mud.

A new producer was added to the Pickett Ridge field in Wharton County during the past week when The Texas Company completed its Pierce Estate A-8 at 4710 feet for 28 barrels per hour through a quarter inch choke. The well had a tubing pressure of 1150 pounds; casing pressure 700 pounds. The oil sand was found at 4690 to 4705 feet. This well topped the Discorbis from 3961 to 3991 feet and the Heterostegina from 4270 to 4301 feet.

EXTENDING SYSTEM

Texas Pipe Line making changes in Coast area

Houston.—Texas Pipe Line Company has let contract for a pipe line from the new Withers field, Matagorda County, to the Markham field and also the reconditioning of the company's six-inch line from Markham to a point near the Van Vleck field. Along with the reconditioning work Texas Pipe Line Company is reconditioning and taking up several old lines in the Texas Gulf Coast.

O. C. Whitaker, Inc., received the contract to lay a six-inch welded line from Withers field to Markham, the pipe to be taken from the Powell-Grosbeck line which was taken up and reconditioned. The distance from Withers to Markham field is approximately 11 miles.

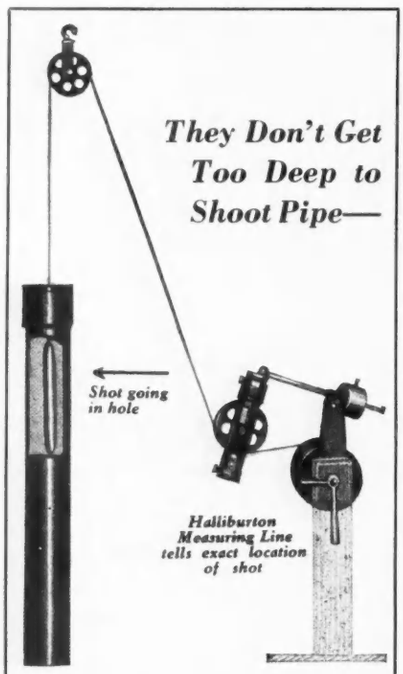
The pipe line contractors will also lay a reconditioned six-inch line from Markham to a point near the Van Vleck field along side Texas Pipe Line Company's old six-inch line which is now in operation. After the newly reconditioned line is laid the oil will be carried through this line, and the old six-inch line will be taken up and reconditioned and placed in a field camp for Texas Pipe Line Company. The project will be the laying of a 9.29-mile reconditioned line and taking up the old 9.29-mile six-inch line. The new reconditioned line is that reconditioned pipe from the Powell-Grosbeck line and from the Conroe-Springs Junction six-inch line.

The contractors will start from Withers field and lay the new line to Markham the coming week. They will employ local labor for the job and have constructed a field camp in the area.

Texas Pipe Line Company is laying a four-inch line from the Pickett Ridge field to Withers field, a distance of 10 miles, which will tie into the six-inch line from the Withers-Markham field. This is reconditioned pipe taken up from Texas Pipe Line Company's Dayton-Barbers Hill line. The operators recently abandoned the Dayton-Barbers Hill line and took the pipe up and reconditioned it.

The Conroe-Springs Junction six-inch line was taken up and reconditioned and this pipe is being laid between Markham and Van Vleck field. This was a 10-mile line.

The company also abandoned its six-inch line from Hull to Sour Lake. This 14 miles of pipe line was reconditioned and will be used on the Pickett Ridge-Withers-Markham-Van Vleck line.



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NEW SALT DOME

Bayou Chene wildcat has encountered salt

Lake Charles.—A new salt dome was discovered in the Louisiana Gulf Coast the past week when The Texas Company's State Lake Mengouloi 1, Section 10-9s-9e, three miles north of Bayou Chene, in the bed of the lake, St. Martin Parish, drilled into sale at 7540 feet and continued in the formation to 7584 feet, where it shut down waiting on orders.

This wildcat salt dome discovery well has had showings of oil and gas from 6908 to 6917 feet and at 7281 to 7289 feet with the top of the water sand found at 7289 feet.

This area has been worked with geophysical instruments by The Texas Company for the past two years. The block of acreage was taken by a lease broker who bid the highest on the state leases and then turned the block to The Texas Company.

The Texas Company has been very active in the Louisiana Gulf Coast in securing leases on the state land, and the past week leased Vermillion Bay dome and that part which lies in Iberia Parish. The company has drilled a number of wells in this area which were reported on top of the dome. It is thought the operators will now drill for offside production. The state leases carry a drilling obligation of three wells.

In St. Landry Parish on the west flank of the Port Barre field, where Pan-American Production Company discovered a new sand some time ago, the company has evidently drilled its first dry hole in the area in efforts to extend the flank production north. Pan-American Production Company's Cormeir 1, Section 4-6s-5e, 900 feet north of the discovery well for the flank production, has been abandoned temporarily at 4880 feet in salt. The well is believed too close to the salt dome and it is reported the derrick will be skidded over and a new well drilled.

The Texas Company has been active in acquiring Port Barre field flank acreage to drill an offside well in search of the new oil sand uncovered by Pan-American Production Company. The company is reported to have spent approximately $22,000 in cash and $33,000 in oil payments for acreage, and is expected to start a test well on the Futrill 100 acres some time the middle of April, 1936.

SOUTH LOUISIANA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
EAST HACKBERRY—		
The Texas Co., State East Hackberry 11-B (wo)	75	6602
GILLIS—		
Union Sulphur Co., Mayo Reeves 5	620	6743
State 14	500	6773
JENNINGS—		
Abshire Bolyard Oil Co., Clements 4	325	2071
S. & S. Oil Co., Knott 2 (wo)	30	1750
LOCKPORT—		
Magnolia, Farquahar 7-A (wo)	100	6530
CAMERON MEADOWS—		
Pan American Prod. Co., Lutcher Moore 1, Mud Lake, sec 14s-11w	*	9227

*Failures; †Junked; ¶Million cu. ft. gas.

Two new producers were added to the Gillis field. Calcasieu Parish, during the past week when Union Sulphur Company brought in State 14 and Mayo Reeves 5.

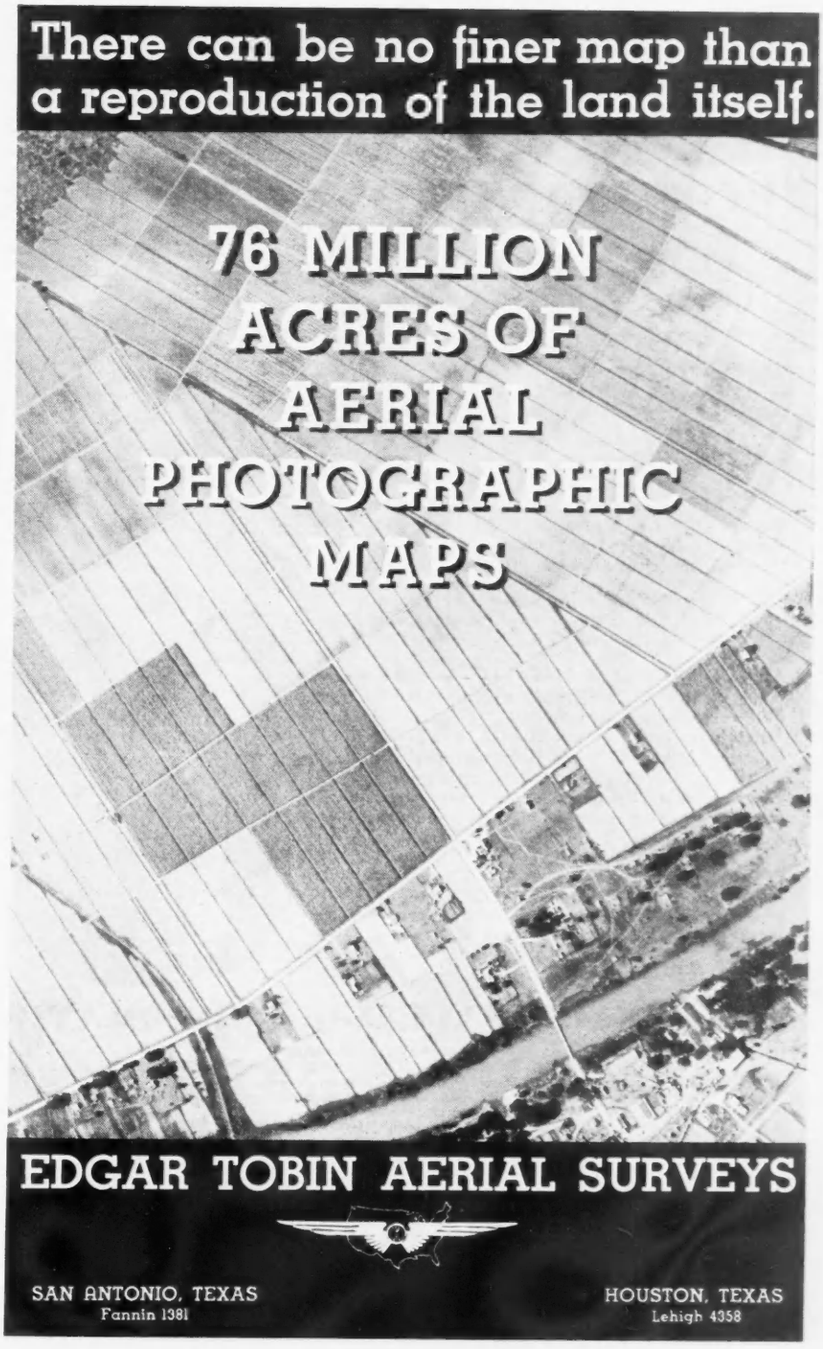
State 14, Section 11-9s-8w, was completed for 500 barrels daily through a quarter-inch choke with a tubing pressure of 750 pounds from perforations at 6723 to 6731 feet. The bottom of the hole was 6773 feet.

Mayo Reeves, Section 12-9s-8w, was drilled to 6743 feet in oil sand found at 6733 to 6739 feet. Seven-inch casing was set at 6733 feet and after washing the well it flowed at the rate of 620 barrels daily through a quarter-inch choke with a tubing pressure of 1025 pounds.

Fohs Oil Company has made location for Castle 10. It is 275 feet north and 500 feet west of the SEc NW SE 14-9s-8w.

On the South Lake Charles prospect, Calcasieu Parish, Union Sulphur Company has announced its second location as Prairie Farms Land 2, 330 feet north and 330 feet east of the SWc NW NW 2-11s-9w, approximately eight miles southwest of Lake Charles.

In the new Bayou Mallett field, Acadia Parish, Superior Oil Producing Company & Woodley Petroleum Company abandoned location for Adams Smith 2 and have made location for M. Savoi 1, 1663 feet north and 2508 feet west of the southeast corner of Section 47-7s-1e. Adams Smith 2 was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located 2100 feet north and 100 feet east of the discovery well.

In Jefferson Davis Parish and in the Roanoke field, Gulf Refining Company has taken over Glassel et al's Louisiana Irrigation and Milling Company 1 and is moving in a rig to make a deep test. Humble Oil & Refining Company has made location for Thomas 2, 2604 feet west and 1200 feet south of the northeast corner of Section 11-9s-4w.

North of the Sorrento field, Ascension Parish, Sorrento Oil Company has made location for Bernard 1, 145 feet north and 75 feet west of the NEc SE SE 9-10s-4e.

Rodessa Extended

SEVEN PRODUCERS, FOURTEEN LOCATIONS DURING WEEK

NORTH LOUISIANA

WEEKLY STAFF REPORT

Shreveport.—The Rodessa field was extended 1½ miles east last week when Bartex Pipe Line Company completed B. H. Norton Estate 1, C NE SE 18-23n-15w, flowing 20 barrels per hour through quarter-inch tubing choke at 6029 feet; elevation is 265 feet. Seven-inch casing was cemented at top of the saturated Young lime at 5998 feet. Tubing pressure was 675 pounds and casing pressure, 625 pounds.

The well later had increased its flow to 45 barrels per hour through the same sized choke, and was still making some wash water.

This well was one of seven wells completed in Rodessa last week. The other wells added were: R. W. Norton's Levee Board 3, Section 21-23n-16w, completed at 5990 feet flowing 27 barrels per hour through three sixteenths-inch choke; Haynes Production Company's Caldwell 2, Section 13-23n-

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Rodessa Drilling Report

Wells drilling last week in Rodessa follow:

Ark. La. Gas Co.'s Rodessa O&L 7, 23-23n-16w, dr 5603 ft. Rodessa O&L Co. 9, spd wocs 235 ft. Rodessa O&L Co. 8, spd wocs 255 ft.

American Liberty Oil Co.'s Rodgers 1, C. M. Robinson sur, (Cass Co., Texas), dr 6720 ft.

Bartex Pipe Line Co.'s Sarah Bruner 2, 13-23n-16w, dr 4005 ft.

Danciger O&R Co.'s Willis 1, 23-23n-16w, dr 5353 ft.

Haynes Prod. Co.'s Caldwell 2, 12-23n-16w, dr 5540 ft anhydrite and shale; Lawton 7, 14-23n-16w, dr 5728 ft anhydrite; Lawton 8, 14-23n-16w, spd; Pitts 2, 14-23n-16w, 7-in csg 5872 ft, wocs; Tyson 1, spd dr 1622 ft sand; Sexton 6, 14-23n-16w, dr plug, td 5985 ft; Zylks 1, 9-23n-16w, dr 4607 ft.

Lion O&R Co.'s Jno. M. Wynn 1, ne sw 9-23-15w, elev 360 ft, top first anhydrite 5212 ft, top massive anhydrite 5477 ft, dr anhydrite 5760 ft.

R. W. Norton's Mary Rives 1 (Cass County, Texas), dr 5317 ft; Mary Rives 2, spd wocs surf csg; Spearman 1, spd dr 3444 ft.

Pelican Oil & Gasoline Co.'s Sexton 8, 14-23n-16w, dr plug arr wash, td 6014 ft; Sexton 9, 14-23n-16w, dr 4354 ft, hd sand; Sexton 10, 14-23n-16w, dr 5970 ft; Tyson 3, 13-23n-16w, dr 2670 ft; Sexton 12, 14-23n-16w, dr 5004 hd lime; Sexton 13, 14-23n-16w, spd wocs 16-in csg 251 ft, td 275 ft. Marr et al's Hunter 2, 13-23n-16w, wocs 2200 ft.

United Gas Pub. Serv. Co.'s Ardis 3, 14-23n-16w, dr 4265 ft; Ardis 4, 14-23n-16w, dr 3355 ft; Bremer 5, 22-23n-16w, dr 1808 ft; Miller 2, 14-23n-16w, spd dr 985 ft; Harris 1, 15-23n-16w, dr 1478 ft; Rodessa O&L Co. 7, 7-in csg 5985 ft, wocs; Rodessa O&L Co. 8, 22-23n-16w, wocs 2200 ft; Rodessa O&L Co. 9, spd dr 1616 ft; Rodessa O&L Co. 10, 22-23n-16w, spd dr 2150 ft; W. B. Spearman 1, 15-23n-16w, wocs 5995 ft; W. B. Spearman 2, nw nw 22-23n-16w, dr 4845 ft; N. S. Spearman Unit 1, 18-23n-15w, spd wocs surf csg, td 325 ft; Tyson A-1, 14-23n-16w, dr 5940 ft; Tyson 2, 14-23n-16w, dr 5970 ft; Tyson 3, 13-23n-16w, dr 4990 ft; Tyson 4, 13-23n-16w, dr 5789 ft; Tyson 5, 13-23n-16w, dr 3097 ft.

16w, flowing 195 barrels of oil per hour through 1½-inch choke at 6040 feet; Haynes Production Company's Sexton 5, Section 14-23n-16w, flowing 86 barrels per hour through one half-inch choke at 6011 feet; Haynes Production Company's Lawton 6, Section 14-23n-16w, flowing 57 barrels per hour through half-inch choke at 6076 feet; United Gas Public Service Company's Rodessa 4, Section 22-23n-16w, flowing 65 barrels per hour through half-inch choke at 6010 feet; United Gas Public Service Company's Mitchell 1, Section 20-23n-16w, an outpost well to the northwest, flowing 53 barrels per hour through half-inch choke at 6000 feet; and United Gas Public Service Company's Bremer 4, Section 22-23n-16w, flowing 70 barrels per hour through half-inch choke at 6010 feet. Mitchell 1 made 565 barrels in 17 hours with eight to 35 percent salt water and apparently is an edge well.

Fourteen new locations were announced last week in Rodessa as follows: Arkansas-Louisiana Gas Company's Rodessa 9, NE SE SE 13-23n-16w; Bartex Pipe Line Company's B. H. Norton 2, 660 feet north and 330 feet east SWc NW 17-23n-16w; Haynes Production Company's B-1 Pitts, SW NW SE 12-23n-16w; M. H. Marr's Hunter 4, NW SW 13-23n-16w; Hunter 5, NW SW 13-23n-16w; United Gas Public Service Company's Harris 1, NE NE 15-23n-16w; Miller 2, NW NW 14-23n-16w; Tyson Unit 6, NW NW 13-23n-16w; Tyson Unit 7, SE SE 11-23n-16w; N. S. Spearman 1, 1191 feet south and 3250 feet east NWc 18-23n-15w; Rodessa 7, NE SE 15-23n-16w; Rodessa 8, NE NE 22-23n-16w; Rodessa 9, NE NE 22-23n-16w; and Rodessa 10, 2348 feet south and 1690 feet west NEc 22-23n-16w.

Gulf Pipe Line Company which recently completed a pipe line to the Rodessa field from its Port Arthur trunk line at Potters Station, Marion County, Texas, last week had made connections with a number of wells on the west side of the field, including the field's discovery well, I. L. Young 1, SE SE 21-23n-16w. Connections have been made with five other wells of United Gas Public Service Company and two owned by R. W. Norton, including the latter's Haywood 1, Priscilla Evans Survey, Cass County, Texas, the only Rodessa oil well in that state. Gulf Pipe Line Company is running 600 barrels daily, or the allowable, from each well. The Texas Railroad Commission last week set the February allowable of Haywood 1 at 500 barrels daily, which probably will be the allowable per well on the Louisiana side during February.

Since Standard Pipe Line Company reduced its runs to 15,000 barrels daily December 21, most of the oil from the present 50 wells in the field has been going into storage or has built up a back allowable. Three wells in the field that had made mostly gas when first completed or were impaired by water have been given full back allowables retroactive to date of completion.

Rapides Parish

Amerada Petroleum Corporation last week was preparing to drill plug and test Weil Estate 2, Section 53-1s-2e, Rapides Parish, central Louisiana, located 990 feet east of Weil 1 in the same section completed several weeks ago as a 200-barrel daily producer at 5700 feet.

Total depth of the new test is 5715 feet and seven-inch casing was cemented at 5700 feet. The last eight feet of the hole was reported to have been oil saturated sand.

El Dorado, Ark.—Hollyfield and McFarlane of El Dorado have bought from Root Refining Company for $75,000 cash its heavy crude production in the Calion and Smackover fields, including a daily yield of approximately 350 barrels from 24 stripper wells.

THREE FLORIDA TESTS
All to be located near well at South Lake

Miami, Fla.—Three additional wells are to be drilled in Florida. Contracts were closed January 17 with J. L. McCord and associates that involved the acquisition of checkerboard acreage on which three wells will be drilled on locations to be selected by William G. Blanchard, technical director of J. Ray Arnold and associates.

The first of three wells will be spudded immediately. It is to be located but three quarters of a mile from J. Ray Arnold and associates' South Lake

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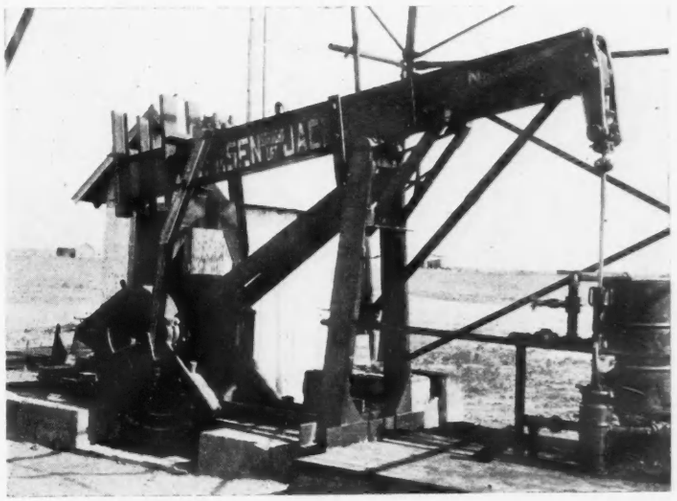

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well which is showing an increasing quantity of gas and oil while being cleaned out, according to the owners.

The second McCord well, according to terms of the contract, will be spudded within 30 days and third within 45 days. The negotiations assure the prospective field of four wells in operation in six weeks, thus giving Central Florida the first major oil program in the history of southeastern United States.

El Dorado, Ark.—Four drilling permits were authorized last week by the Arkansas Board of Conservation, three for Union County, two in the east part of the Rainbow City field and one in the old Smackover field, Ouachita County. The latter test is J. D. Reynolds et al, Camden, Arkansas, McKenzie 1, located 204 feet south and 300 feet west NEc SE SE 36-15-15. Those in Union County are: Ohio Oil Company, Shreveport, Louisiana, Richard Pumphrey 6, located 520 feet south and 50 feet east NWc NE NW 12-17-14; J. C. Buckbee, Trustee, El Dorado, Sloan 2330 feet south and east NWc SE NW 14-17-15; and J. E. Crosbie, Incorporated, Smackover, M. W. Sullivant 4, 360 feet west and 300 feet north SEc NE NW 12-17-14.

HINDS WITHDRAWALS

Jackson, Miss. — December's withdrawal from Jackson gas field was 1,245,390,000 cubic feet, according to the State Oil and Gas Board. Of this 537,520,000 was withdrawn from wells in Hinds County and 707,870,000 from wells in Rankin County.

The board places the total open flow capacity of the 114 gas wells in the field at four billion feet daily. A total of 110 wells have line outlets. Average rock pressure of the field is given as 952 pounds. The field, discovered in February, 1930, has a proven area of approximately 7500 acres.

United Gas Public Service Company is taking the bulk of the gas output, having taken 901,847,000 from other producers for the month and having run 63,929,000 cubic feet from its own wells.

Mississippi Power and Light Company took 146,087,000 cubic feet; Eastside Oil and Gas Company took 6,672,000 cubic feet; the City of Canton, 13,794,000 cubic feet; and Belhaven College, two million feet.

Lea County Active

ELEVEN ADDITIONAL TESTS ANNOUNCED DURING WEEK

NEW MEXICO

WEEKLY STAFF REPORT

Hobbs, N. M.—Lea County continues to occupy a bright spot on the horizon for oil field equipment concerns and drilling contractors with 11 new tests authorized the past week. Monument and Eunice fields were each allocated four of the locations, while semi-wildcat territory in the sandy-lime belt in the eastern section of the county was assigned three new projects.

Pressed by short term leases, Skelly Oil Company increased its operations in the sandy-lime belt to six the past week by making two locations. This company's J. V. Baker 1, C SE SW 22-22s-37e, is situated one half-mile southeast of the 200-barrel natural flowing well recently completed on a wildcat block by N. G. Penrose, Arch Rowan and J. M. Rusk on the Will Cary tract at 3555 feet. Skelly Oil Company's R. R. Simms 1, C SE SE 4-23s-37e, helps to round out a circle of five tests actually drilling or starting near a wildcat oil producer in process of completion on the B. F. Harrison tract, C NW SW 5-23s-37e, owned jointly by the company and six others. Harrison 1 showed for a flowing well prior to drilling into sulfur water at 3796 feet in December, and has had difficulties with cavings since plugging back to 3762 feet and using 870 quarts of nitro in sandy-lime at 3491-3754 feet.

Harry Leonard et al have erected machine to drill B. T. Lanehart 1, C SW NE 21-25s-37e, a mile east of Jal and in prospective oil producing territory from the sandy-lime zone.

New locations in the Monument field included two for The Texas Company on offset tracts. State 2-F, C SE SE 24-19s-36e, and State 2-G, one location to the east, were forced by offset production. Similar situation prevailed in the starting of operations by Gypsy Oil Company on State-Graham 1-B, C SW SE 19-19s-37e, and Amerada Petroleum Corporation's State 1-L, C SW NW 20-19s-37e.

Substitution of cable tools for rotary in drilling in a producer in the Monument field proved successful with Amerada Petroleum Corporation's State 1-I, C NE NW 2-20s-36e, south offset to the western outpost producer. All previous completions have been made with rotary, and in recent months by the pressure control method. State 1-I was drilled to 3817 feet with rotary, and changed equipment after cementing seven-inch pipe at 3810 feet. First pay was logged at 3819 feet, with increased oil flow being noted in drilling to 3902 feet, where the well gauged 744 barrels natural with gas volume estimated at about 1,500,000 cubic feet daily. A special control head for use in cable tool drilling made it possible to drill the dolomite lime section without loss of oil. The company's State 1-J, C SW SE 2-20s-36e, developed an excessive gas/oil ratio in testing an average of 9½ barrels of oil per hour on 17-hour gauge at 3921 feet, and will install packer on tubing at 3815 feet. State 2-J, north offset, has been completed at 3900 feet, flowing 28 barrels per hour natural through half-inch choke on tubing.

Empire Gas & Fuel Company contributed two of the new locations credited to the Eunice field, including S. F. Felton 2, C SE NW 28-21s-36e, and State 4-D, C SE NE 32-21s-36e. Humble Oil & Refining Company has moved in rotary to drill State 8-B, C SE SE 29-21s-36e, and Continental Oil Company and The California Company added to their long list of operations by starting work on A. E. Meyer 1-B-18, C SE NW 18-21s-36e.

Effective application of tubing packer to cut down excessive gas/oil ratio was scored by Continental Oil Company's State 8-C, C NW SW 20-21s-36e. This well gauged 75 barrels of oil per hour, with gas flow rated at 20,000,000 cubic feet daily, through 5½-inch casing with drill pipe suspended in the hole. Packer installed at 3870 feet on 2½-inch tubing reduced the gas volume to 176,000 cubic feet daily, and the oil flow to 98 barrels in 12 hours. The well is producing from dolomite lime at 3860-3968 feet.

Drilling was in progress below 3830 feet last week on The Texas Company's J. M. Dean-Pure 1, situated several miles south of the Eunice field, after

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testing only seven barrels of oil daily at 3810 feet, or 312 feet below sea level. At the latter depth the hole was treated with 4000 gallons of acid, then shot with 350 quarts of nitro at 3733-3810 feet, with second treatment of 6000 gallons of acid yielding negative results.

Sam K. Vierson et al's W. D. Robinson 1, C NW SE 14-11s-32e, isolated wildcat in northwestern Lea County showed water when formation tester was used in lime carrying oil saturation at 4221 feet. Drilling was resumed last week to try for production in the Glorietta sand.

PRORATION APPROVED

Santa Fe, N. M.—Hobbs field operators presented a solid front favoring continuation of the New Mexico Oil Conservation Commission's current method of prorating the oil production at a meeting held here January 20 in conjunction with the commission's regular monthly session. Proration agreement among the operators was renewed for another year. Voluntary proration was first applied to the field on July 10, 1930, through the efforts of the Hobbs Field Proration Advisory Committee, and has been renewed regularly at intervals of six to 12 months. No complaints of illicit production have been recorded during this 5½-year period of orderly production.

Frank Vesely, state land commissioner and secretary of the Oil Conservation Commission, presided at the hearing. Governor Clyde Tingley and Dr. E. H. Wells, state geologist, both members of the commission, were in attendance.

Representatives of Barnsdall Oil Company, owner of two large oil producers in the south portion of the Monument field, petitioned the commission to change the method of prorating the area so as to give consideration to potential flow in allocating production between wells. Production in the Hobbs field is prorated on a basis of 75 percent for average potential of wells on a single 40-acre unit, and 25 percent for acreage, with wells making water on a 60-40 basis. Other Lea County areas sharing in the same crude market outlets are prorated on a flat well basis, amounting to 114 barrels per well daily during the January 16-31 period. Wells not capable of producing their maximum quota are not prorated.

Unofficial canvas of the lease owners in the Monument area indicated that a big majority opposed the adoption of a potential factor in arriving at individual well allowables. Testimony was submitted that excessive use of acid solutions and nitroglycerin to stimulate potentials would follow immediately after the inclusion of a potential factor, while water intrusion would be aggravated through wells being drilled to the water level as a means of building up a greater potential.

The commission instructed the Hobbs Field Engineering Committee to make a study of conditions in the Monument field, and ascertain if it can recommend a change in the method of proration that will be equitable to lease and royalty owners as well as safeguarding the physical condition of the field. Committee report will be made at the next proration hearing set for February 20.

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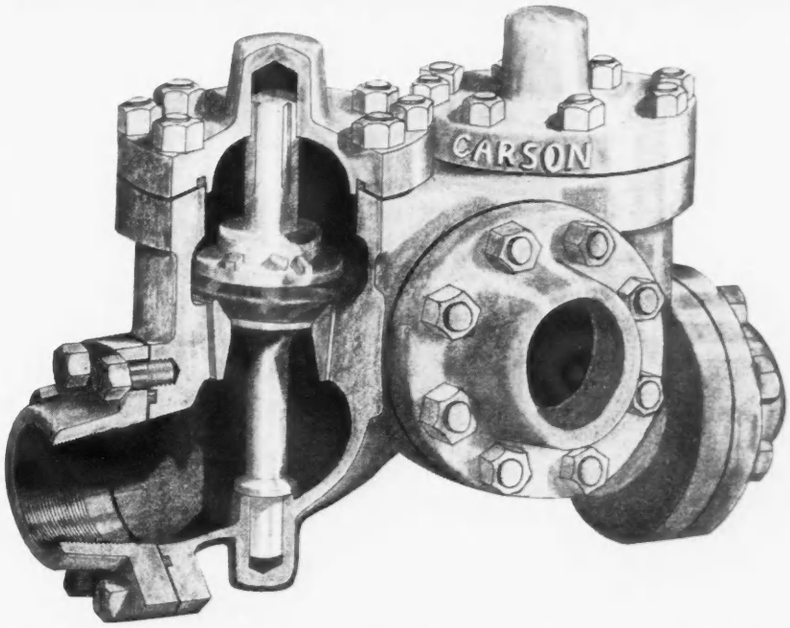

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Two Good Producers

OHIO OIL COMPANY HAS SUCCESS IN WYOMING WELLS

ROCKY MOUNTAIN FIELDS WEEKLY STAFF REPORT

Casper, Wyo.—Ohio Oil Company brought in two good wells in the recently discovered Sundance Pool in the Laramie Basin fields of southeastern Wyoming. Flowing 80 barrels an hour, Ohio Oil Company joint with The California Company completed State 2, CNW NW 36-21n-79w, on the Big Medicine Bow Dome, Carbon County. The well is making 1920 barrels of oil daily at a plugged depth of 5509 feet in the first Sundance topped at 5474 feet. Along with the oil 5,000,000 cubic feet of gas flowed daily and well showed 800 pounds of pressure on the seven-inch production casing set at 5477 feet.

Operators were disappointed in the well in the lower sands as it developed water, thus apparently limiting the area to around 800 acres if it is located on the water line. Water and oil showed up in the first Sundance at 5474-5544 feet and 200 barrels of hot sulphur water an hour flowed from the second sand at 5625-98, when the two horizons were tested at the same time through tubing from the second, and the casing from the first sand packed off around the tubing from the second two weeks ago. Drill stem tests in the first sand produced 135 barrels of oil an hour and 16,000,000 cubic feet of gas daily at 5474-5505 feet. In all the other drill stem tests, the second Sundance, the third Sundance at 5774-92 feet, the Jelm sand, top of the Chugwater at 5836-5910 feet, showed water. Some oil was shown in core recoveries from these sands.

State 2 is a mile south and a quarter-mile east of the discovery well, Kyle 1, NE SE NE 26-21n-79w. This well completed in June, 1935, for 6360 barrels of 63 gravity crude in the second Sundance at 5299-5263 feet. The well showed a large but ungauged volume of gas in the second sand and 81,000,000 cubic feet of gas in the first sand. The discovery well completed in both sands. From the first sand it was through the casing and around the tubing with packer set between the sands and in the second through the tubing run in liner.

In the same field, the same operators' 1 Union Pacific-Account 1, NE SW SW 24-21n-79w, is drilling at 5134 feet in the Morrison and is reaching critical depth.

Rock River Completion

Another well was placed on production by Ohio Oil Company this week when State Land 3, center east line SE NE 34-20n-78w, completed for the largest Sundance producer to date in the Rock River field, Carbon County. On a production test throughout the past week the well made 263 barrels average daily. First Sundance sand was topped at 3200 feet and the well was deepened from the Dakota at 2875 feet to the Sundance at 3255 feet. It was completed in the Dakota formation for 1037 barrels initial in 1920.

Two other wells are being deepened to the Sundance formations in the Rock River field by Ohio Oil Company. Harrison-Cooper 3, NWc 35-20n-78w, is cementing hole below 6⅝-inch casing at 2652 feet to bottom at 2808 feet to shut out cave. This well was completed in 1920 from the Dakota at 2808 feet making 1400 barrels initial. Harrison-Cooper 8, SW SW 35-20n-78w, is working on frozen drill pipe at 3030 feet. This well completed in 1921 for 750 barrels initial at 2989 feet.

In the Lance Creek field, Niobrara County, Ohio Oil Company's Converse Sheep Company 7, NW SE 32-36n-65w, is cementing seven-inch production casing in the top of the lower Sundance at 3720 feet. Converse Sheep Company 6, SW SE, is drilling at 2742 feet.

Although many wells are active in

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HOUSTON, TEXAS

MOUNTAIN STATES Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
NEW MEXICO		
LEA COUNTY (Eunice Field)—		
Conoco, State 8-C, c nw sw 20-21s-36e	¶20-1800	3968
LEA COUNTY (Monument Field)—		
Amerada, H. F. Andrews 2, c ne ne 11-20s-36e	*	3895
State 1-I, c ne nw 2-20s-36e	744	3902
State 1-J, c sw se 2-20s-36e	1500	3900
Skelly Oil Co., State 1-D, c se se 1-20s-36e	3000	3890
State-Monument 1, c se se 13-19s-36e	300	4093
MONTANA		
GLACIER COUNTY (Cut Bank Field)—		
Montana Power Gas Co., Benish 1, csw nw 9-33n-5w	214	2832
Texas Co., Fee 4, sw 15-35n-6w	135	2917
R. C. Tarrant, Jones 1, nw sw 31-34n-5w	85	2858
Montana Power Gas Co., McDougal 1, cse nw 31-34n-5w	80	2840
WYOMING		
SWEETWATER COUNTY (South Baxter Basin Field)—		
Mountain Fuel Supply Co., Brooks 1, cnw ne 15-16n-104w	¶1¼	2189

*Failures; †Junked; ¶Million cu. ft. gas.

the Northern Wyoming oil fields, they are all reported at routine stages.

The Yale Oil Corporation is shut down in Allen Oil Company 1, SE NW SE 33-56n-97w, at 3815 feet in attempt to shut off gas blowout. Well topped the Tensleep sand at 3300 feet. Test is in the Garland field, Big Horn County.

Kinney-Coastal Oil Company's Government 3, NW NE 24-56n-98w, Garland, is drilling at 3800 feet on junk. Total depth is at 4200 feet.

In the Hidden Dome field, Washakie County, Arlt and Doyle's Government 1, SW SW SE 29-48n-90w, is drilling at 1023 feet.

Stanolind Oil & Gas Company's State-Ridgley 20, SE NE SE 19-46n-98w, in the Grass Creek field, Hot Springs County, is drilling at 1196 feet.

Christensen & Thorne's Government 2, NW SW SW 31-48n-90w, in the Hidden Dome field, Hot Springs County, is drilling at 1450 feet.

In the Byron field, Big Horn County, Sidney H. Keoughan and the Taylor Oil Company is drilling at 4900 feet in Hoskins 1, Lot 59, SE SE 25-56n-97w, Ohio Oil Company's wells in this field report as follows: Charlotte Lindsay 1, CNW NE 23-56n-97w, is drilling at 3478 feet; Byron-Union 4, CSW NE 22-56n-97w, is drilling at 4532 feet.

Western Wyoming

Only two wells are active in the western part of the state this week. W. D. Marshall's Government 1, NW SW SE 12-15n-118w, in the Spring Valley field, Uinta County, is drilling at 1116 feet. Also in the Spring Valley field, the Inter-Mountain Petroleum Company's Union Pacific 1, SW NW SE 24-14n-118w, is drilling at 1575 feet after cementing the 5 3/16-inch casing to 1490 feet where water was encountered.

MONTANA

Great Falls, Mont.—One well completed and three new locations were staked in the Cut Bank field, Glacier County, northern Montana this week while all operations in the Kevin-Sunburst field, Toole County were shut down.

Indian Oil Company completed Britton 3, CNE SE 14-34n-6w, in the Cut Bank field, swabbing 92 barrels in the first 24 hours. Hole bottoms at 2904 feet.

Montana Power Gas Company released two locations: Simero 1, CSE SE 30-34n-5w rigging up; and Whetstone 2, CSW NE 8-33n-5w, spudding at 90 feet. Boru Oil Company started Reynolds 1, SW NE NW 31-33n-4w, which is hauling in material.

The Texas Company is preparing to shoot W. L. Ewing 1, CSW 24-35n-6w, with nitro-glycerine to drill it in. It had good showing of gas and hole bottoms at 2875 feet.

Pondera Field

Recent completion of Dave Mills' A. L. Erickson 1, SW SW SW 3-27n-4w, in the Pondera field, Pondera County, northern Montana, is making 50 barrels daily in settled production. This well was completed two weeks ago, flowing 40 barrels daily of 30 gravity crude. Production came from the Madison formation at 1902-12 feet.

Extend Redondo

OTHER WELLS EXPECTED TO DRILL IN DISTRICT

CALIFORNIA

WEEKLY STAFF REPORT

Los Angeles.—The completion of the Thomas R. Clark's No. 1, Section 6-4-14, at 3552 feet for 150 barrels of 14.5 gravity oil, cut seven percent, to the south of the old Redondo proved area, will probably bring about the drilling of several other wells in the same general area.

It is generally considered the discovery extends the old Torrance-Redondo field to the south, rather than being a new field.

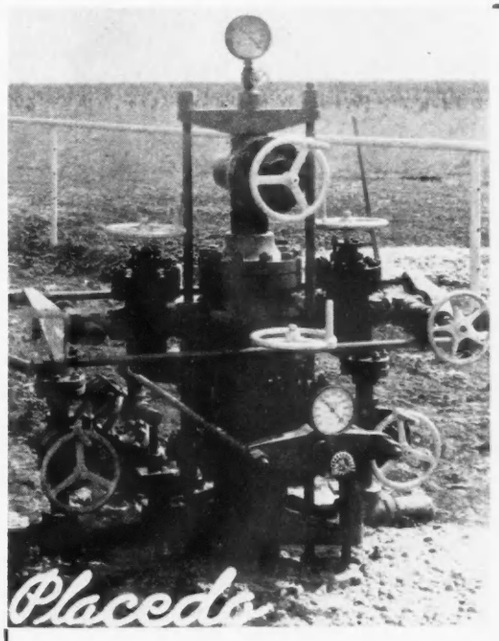
After the completion of the Clark well, Dumas-Lewis Company, took over the location made by Imperial Pacific Development, and hole was spudded January 15. Forty acres are under lease by Dumas-Lewis and an option is held on a block of lots adjoining the large lease. It is understood the company plans on drilling a total of 10 wells if the hole just started is a producer.

Tracy Is Important

That that new Tracy area in San Joaquin County is devoid of oil is apparent from the drilling done by Amerada Petroleum Corporation in that district, but it is a gas field most favorably located and probably is worth more as a gas field. Its location so near San Francisco proves its value since large gas transportation concerns will not be forced to move this product such great distances to supply a large consumption area.

The first gasser completed in this area was good for 65,000,000 cubic feet, being located on or near the top of the structure. This well, designated as No. 3, was bottomed at 4029 feet with 8⅝-inch casing cemented at 3916 feet. Amerada has staked location for No. 4, to be drilled 1500 feet from No. 3.

No. 2 test was completed for 35,000,000



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cubic feet of gas. The first test started on the Farmers Development Company lands was carried to 9690 feet in an effort to find oil, but was plugged back to 4090 feet and came in for 6,000,000 cubic feet of gas when the 13-inch was perforated from 4005 to 4060 feet.

Amerada now has four gas producers on its large lease and only one dry hole has been drilled. It is understood a consistent but conservative, drilling campaign will be conducted during 1936 in an effort to increase the company's possible gas output.

Pacific Gas & Electric Corporation is now taking about 20,000,000 cubic feet of gas daily from the Amerada lease, through a short pipe line tying into its main line from Kettleman Hills to the San Francisco-Bay district.

The San Francisco and Bay district has turned from fuel oil to gas as a favored fuel during the past two to three years, and a nearby source of supply is favored.

Below 11,000 Feet

Union Oil Company's Lillis Welch 1, an outpost test for the North Dome Kettleman Hills field, January 20, was running in a rock bit to drill deeper from 11,014 feet, having cored from 10,995 feet, to bottom, recovering hard sand and some shale. This hole at one time was the deepest hole in the world, when being drilled by the North Kettleman Oil & Gas Association (Ed McAdams). Union Oil later took over the drilling operations.

This hole has 10,813 feet of 6⅝-inch casing, cemented, which is a world record for length of string, but not as to weight. Should this hole be completed for production, considerable proven acreage will be added to the Kettleman Hills North Dome, or a new area proved.

Twelve locations or rigs are reported for the North Dome in recent few days, indicating a drilling campaign equal or probably to exceed that of 1935. Standard Oil Company has 15 strings of tools added to the Kettleman Hills North Dome, or a new area proved.

Sixteen of the holes being drilled are below 6000 feet. Long strings of casing are being cemented and one instance is 7672 feet of 9⅝-inch landed in Kettleman North Dome Association's No. 21-28J. Same concern cemented 6⅝-inch at 9017 feet in its No. 36-36Q. Standard Oil Company cemented 7890 feet of 9⅝-inch in No. 58-19J. Standard also landed 6477 feet of 13⅜-inch in No. 82-7Q.

Another interesting test is Standard's No. 54-1U which is coring hard sand at 9362 feet, with 7593 feet of nine-inch cemented in the hole.

Although the Ventura Avenue field in Ventura County, has been out of the headlines in recent months, the three operators in the field are continuing a conservative drilling campaign, and such a campaign can be continued for years, due to wide spacing of wells, and depth necessary to be drilled. It has been said it costs twice as much to drill a well to completion at Ventura than at Kettleman Hills.

According to a recent check, 295 wells in this field are on production, or capable of producing, the figures including 70 wells completely shut in. Of the 225 wells on production, 117 are flowing,

CALIFORNIA
Completions

Company, Well and Location	Init. Prod. Bbls	Depth
LONG BEACH—		
Shell, Cherry Hill 11	330	4160
Dabney-Johnston Oil Corp., No. 91	70	3885
Oceanic Oil Co., Oceanic 4	65	4385
DOMINGUEZ—		
Shell, Reyes 82	1400	6852
HUNTINGTON BEACH—		
Macal Oil Co., Judd 1	75	3988
W. C. W. Drilling Co., No. 5	175	4096
VENICE—		
Union, Vidor 14	150	6264
MONTEBELLO—		
Wilshire Annex Oil Co., Baldwin C-1	*	4297
EL SEGUNDO—		
Larco Oil Co., Van 1	*	7600
SAUGUS—		
International Oil Developers, Powell 2	*	2198
VENTURA AVENUE—		
Associated, V. L. & W. 29	1980	7200
KETTLEMAN HILLS—		
Kettleman No. Dome Assn. 8-18-J	815	8470
Middle Dome Corp., 73-30V	400	7790
KERN FRONT—		
Texas, Lehman 15	335	2087
KERN RIVER—		
Standard, Ward Fee 1	180	2041
MIDWAY-SUNSET—		
Standard, No. 17-33D	385	2923
MOUNTAIN VIEW—		
Barnsdall, Morris 5	1235	6046
Mohawk Pet. Co., Hood 8	550	5962
Standard, Wilson 2	640	5255
VENTURA COUNTY—		
General, McGrath 1	*	7635
MADERA COUNTY—		
Pure, Security 1	*	2772
SEMITROPIC—		
Superior, K.C.L. 2	*	8732

*Failures; †Junked; ¶Million cu. ft. gas.

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28 are on the gas lift, and 80 are on the pumping. The flowing wells have an average daily capacity of 236 barrels, while the wells on the gas lift could been estimated the shut-in wells have a daily capacity of 93.6 barrels. It has been estimated the shutin wells have a daily average potential of 180 barrels each.

The most active operators in this area are Associated Oil Company, Shell Oil Company and General Petroleum Corporation. Associated has eight strings of tools busy while Shell has four jobs under way and General Petroleum is busy at one hole.

Shell Oil Company's Dabney-Lloyd 3 is bottomed at 9582 feet, with 7-inch casing cemented at 8782 feet, and is swabbing water with a trace of oil. Same company's Taylor 69 with bottom at 7104 feet, in oil sand, has cemented 6⅝-inch casing at 6810 feet, and is waiting for cement to set.

Large casing is cemented at great depths at Ventura Avenue. Associated Oil Company's Lloyd 136 with bottom at 7684 feet has cemented 11¾-inch at 6190 feet and is reaming hole at 7576 feet. Same company cemented 8⅝-inch casing at 7454 feet and is redrilling, with old bottom at 9218 feet.

General Petroleum Corporation's Notten 13 is another interesting test. Bottom is at 9510 feet and the hole was being redrilled at 4165 feet when drill pipe was stuck. Effort is now being made to loosen the drill pipe.

In Associated Oil Company's V. L. & W. 3, with bottom at 7500 feet, string of 9⅝-inch has been cemented at 5815 feet. This hole is a redrill job.

Wildcats Increase

GOOD PRICE AND DEMAND FOR ADDITIONAL CRUDE

MICHIGAN

WEEKLY STAFF REPORT

Mt. Pleasant, Mich.—A 30-cents-per-barrel increase in the price of oil during the past three months and a market demand of about 75 percent over the current production in the state is expected to greatly stimulate wildcatting and also bring intensified development in smaller reserve districts. The present price is $1.32 for Central Michigan crude on a flat rating.

Market demand now approaches 80,000 barrels a day with production wavering between 38,000 and 43,000 barrels per day.

Gladwin County is coming in for a drilling play with six strings now active in the Beaverton district where five wells in Dundee lime production are producing an average of 600 barrels daily. A drilling campaign is taking shape in the Vickeryville district of Montcalm County, Hemlock district and Birch Run district of Saginaw County, Gibson district of Bay County and in Tuscola County.

Recent showings on wildcats in Lenawee and Mason counties also will bring two of more tests immediately. In each case as Hemlock, Bay, Vickeryville and Tuscola commercial production has been found but under 50 barrels daily. With a better area such as Crystal these districts probably would not receive much attention but now loom of importance.

Pure Oil Company which virtually controls the Yost-Jasper area between Greendale and Porter fields has six strings of tools active and is adding considerably to its reserves and daily

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output, an area proven more than a year ago but up to now showing little activity.

Gas Line Hearing

Taking of additional testimony in the application of Grand Rapids Light and Gas Company asking authority to construct and operate a 55-mile eight-inch gas main from the Millbrook-Belvidere field to Grand Rapids was postponed January 20 to February 5 by the State Public Utilities Commission after a preliminary hearing.

Grand Rapids Gas and Light Company, subsidiary of American Light and Traction Company, operates a distribution system and artificial gas plant in Grand Rapids. Independent operators with holdings estimated at 6,000 proven acres in the field have committed their supply to the Grand Rapids market. Open flow on the committed acreage is in excess of 250,000,000 cubic feet with reserves estimated between 15 and 30 billion feet. Grand Rapids has an estimated market of 10 million feet of gas per day.

MICHIGAN

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
GLADWIN COUNTY—		
M. F. Whitehill's Welcher 1, 17n-2w, sw ne sw-2	350	3830
United Producer's Nettleton 1, 17n-2e, nw sw ne-24	*	3589
ISABELLA COUNTY—		
T. T. Hawksworth's Varney 1, 15n-3w, nw se sw-34	50	3720
MECOSTA COUNTY—		
G. M. Obenauer's Houghton 1, 13n-7w, c se nw-33	¶4	1370
Colmur Oil Co.'s Bell 1, 14n-8w, c ne nw-6	*	1340
Goll, Graves, Mechling's Ruetz 1, 14n-7w, se ne se-17	*	4000
MONTCALM COUNTY—		
R. M. Burch's Morse 1, 12n-7w, c se nw-2	¶5½	1265
G. W. Norton's Bellows 1, 12n-7w, c ne sw-10	¶23	1300
Stork Oil Co.'s Dickinson 2, 10n-5w-3	650	3190
Daily Crude Oil's Robins 7, 10n-5w, sw sw ne-3	1000	3189
T. F. Caldwell's Pugsley 1, 11n-5w, sw se nw-36	*	3217
Isabella Oil Co.'s Strait B-3, 11n-5w, sw se se-34	115	3200
McClanahan Oil Co.'s Jarfstier 1, 10n-5w, ne se ne-4	50	3198
Butler-Pearce's Academy 1, 12n-6w, c nw se-25	*	1310
WAYNE COUNTY—		
Lee Brown's Gyde 1, 2s-8e-5	*	lcn.

*Failures; †Junked; ¶Million cu. ft. gas.

EASTERN FIELDS

EASTERN FIELDS — WEEKLY STAFF REPORT

Completions

Company, Well and Location	Init. Prod.	Depth
OHIO		
ASHLAND COUNTY—		
Ohio F G Co., Hammitt 1	¶	382
ATHENS COUNTY—		
Leeper & Co., Cunningham 9	¶	858
Ellicott Oil Corp., Pickett 3	3	1019
Carpenter & Glaizer, Smith 8	8	325
Ohio F G Co., C.C.C. 126	*	3727
MEIGS COUNTY—		
Ohio F G Co., Ours 2	¶	1995
Meigs Dev Co., Hoback 1	*	....
Ball Run Oil & Gas Co., Geary 1	¶	755
MORGAN COUNTY—		
Kepple & Co., Vanfossen 1	¶	1588
WASHINGTON COUNTY—		
Mosier & Co., Noon 1	3	454
Harry Binegar, Moore 6	¶	1967
WYANDOT COUNTY—		
Kepple & Co., Vanfossen 1	¶	1588
Huston & Co., Heck 1	¶	1299
SUMMITT COUNTY—		
East Ohio Gas Co., Lauby 1	*	....
SENECA COUNTY—		
Murphy & Co., Werling 1	*	1578
STARK COUNTY—		
Ohio F. G. Co., Boerner 1	¶	4339
MEDINA COUNTY—		
Edwin Obermiller, Hammon 1	¶	2817
MONROE COUNTY—		
N. T. Stout, Jackson & Griffith 1	10	1550
John Lumbates & Co., Robinson 1	2	1263
George Hines Bros., Hines 7	*	710
KNOX COUNTY—		
J. B. Reed & Co., Seymour 1	¶	2571
Upham Gas Co., Gunn 2	¶	2892
George Lacknett, Biggs 8	*	739
Sterl Brown & Co., Rine 1	*	....
TUSCARAWAS COUNTY—		
Columbia Carbon Co., Scharr 1	¶	3023
Capital Drilling Co., Asher 6	2	3733
FAIRFIELD COUNTY—		
Bishop & Patton, Shafer 1	2	2055
NOBLE COUNTY—		
Hall & Co., Blair 1	¶	1490
C. A. Heisler & Co., Miller 1	1	933
Union Gaso. Oil Corp., Stobbs 1	1	1893
HOLMES COUNTY—		
Ohio F. G. Co., Rooney 1	*	....
Bucy 2	*	3340
LICKING COUNTY—		
Adams & Hursey Rine 2	5	691
Long Producing Co., Varner 4	5	2931
MUSKINGUM COUNTY—		
Pure Oil Co., Wright 1	30	2943
BELMONT COUNTY—		
A. J. West & Co., Perkins 1	*	1522
INDIANA		
KNOX COUNTY—		
Phillips Petroleum Co., Hall 1	5	819
Bond 5	¶	612
B. H. Parker & Co., Wolf 1	¶	336
Wolf 2	10	825
HANCOCK COUNTY—		
J. H. Snider, Low 1	*	994
DELAWARE COUNTY—		
Fred M. Carapo, Crapo 1	¶	....
MARION COUNTY—		
Bert Kinnaman, Pickle 1	*	....
SPENCER COUNTY—		
Ohio Oil Co., Varner 2	*	898
PERRY COUNTY—		
H. Hollingsworth, Jobo 1	*	619
DAVIESS COUNTY—		
Manager Discount Corp., Frye 1	*	705
Wallace Oil Co., Ragsdale 1	*	....
DECATUR COUNTY—		
Hoosier Pub. Serv., Beck 1	¶	....
GIBSON COUNTY—		
R. J. Smith, Hall 1	*	1025
W. C. McBride, Inc., Quiggins 1	*	....
Managers Dis. Corp., Holcomb 1	*	1716
HENRY COUNTY—		
Knightstown Nat. Gas, Section 12 3	10	1007
Section 12 4	8	990
HAMILTON COUNTY—		
Unknown, Scholl 1	*	868
HARRISON COUNTY—		
Joseph Kraft, Elbert 1	*	165
DAVIESS COUNTY—		
Mid-West Dev. Corp., Dilley 9	¶	432
Harsh Bros., Graves 5	*	....
Indiana SW Gas Corp., Hunter 1	*	....
MARTIN COUNTY—		
Trinity Oil Co., Thompson 2	*	1580
WEST VIRGINIA		
UPSHUR COUNTY—		
Columbia Carbon Co., Bennett 1	¶	4700
WETZEL COUNTY—		
Curtis B. Fleming, Edgell 2	20	2087
Manufacturers L. & H. Co., Foland 1	¶	2153
Allen 1	¶	1014
ROANE COUNTY—		
Norman F. McIntyre, McIntosh 3	5	....
L. C. Young & Co., McKee 1	¶	1476
CALHOUN COUNTY—		
K. M. Hunt & Co., Vietta Brannon 1	¶	2143
GILMER COUNTY—		
Coleman & Hamilton, Gainer 2	¶	1725
RALEIGH COUNTY—		
G. L. Cabot, Inc., Beaver Coal Co. 9	*	2220
CABELL COUNTY—		
Martin Swanson, Childers 1	¶	3371
DODDRIDGE COUNTY—		
Clifton O&G Co., Powell 1	¶	2140
ROANE COUNTY—		
United F. G. Co., Loonly 4572	¶	2003
H. H. Staats, Balte 1	*	....
MARSHALL COUNTY—		
Union Gaso. Corp., Mackey 1	1	3167
WIRT COUNTY—		
R. C. Waggoner & Co., Richter 3	¶	....
Glen W. Roberts, McConnaughey 4	¶	....
WOOD COUNTY—		
C. & L. Smith, McAtee 10	*	....

*Failures; †Junked; ¶Million cu. ft. gas.

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HOUSTON TEXAS

THE OIL WEEKLY REPORT ON IMPORTANT *Wildcat Tests*

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

*—*dry hole abandoned well.*
‡—*salt water (completions).*
†—*junked and abandoned.*
¶—*million feet of gas.*
abd—*abandoned.*
bbls—*barrels.*
br—*building rig.*
b.s.—*basic sediment.*
csg—*casing.*
co—*cleaning out.*
dd—*drilling deeper.*
dk—*derrick.*
dr—*drilling.*
fsg.—*fishing.*
ft—*feet.*
hfw—*hole full of water.*
in—*inches.*
lcn—*location.*
m—*milling.*
mim—*moving in materials.*
mit—*moving in tools.*
mot—*milling on tools.*
n, s, e, w—*north, south, east, west.*
oih—*oil in hole.*
owdd—*old well drilling deeper.*
owpb—*old well plugging back.*
pb—*plugged back or plugging back.*
r—*reaming.*
rog—*rig on the ground.*
rur—*rigging up rotary tools.*
rust—*rigging up standard tools.*
sd—*shut down.*
sdtr—*sidetracking.*
sg—*show gas.*
si—*shut in.*
so—*show oil.*
so & g—*show oil and gas.*
spd—*spudding.*
sr—*straight reaming.*
sw—*salt water.*
td—*total depth.*
ur—*underreaming.*
wih—*water in the hole.*
wo—*workover.*
wocs—*waiting on cement to set.*
wosr—*waiting on standard rig.*

ALABAMA

FRANKLIN COUNTY — McAlpine et al's Hobson et al 1, 26-8s-14w, elev 559, co to acidize, showing some gas, td 2600 ft.

HOUSTON COUNTY—Rice O&G Co.'s Oakley Est. 1, nw sw 9-3n-29e, arr set 6-in csg after reported so&sg at 3438 ft, (Tuscaloosa).

LAMAR COUNTY—DeSoto O&G Co.'s Gardner 1, 22-15s-16w, elev 503 ft pb & cemtd hole 3085-3140 ft to stop caving hole, arr re-set 6-in csg 3118 ft old td 4900 ft lime.

ARKANSAS

ARKANSAS COUNTY—Ark. Oil Co.'s Fascher 3, ne nw 6-6s-4w, rur.

CLARK COUNTY—B. Tribinoff Tr's Gibbons 1, sw ne ne 27-8-18, sd 556 ft.

COLUMBIA COUNTY — Magale & Elam's Garrett 1, ne ne sw 13-17-20, elev 352 ft anhydrite 3135-3240 ft top Arkadelphia 1735 ft dry & abd td 4004 ft.

CRAWFORD COUNTY—Trumbo et al's Craddock 1, c nw ne 3-11-30, mim.

GARLAND COUNTY — J. E. Elliott's D. Hauyst 1, ne se nw 22-2s-17w, sd 94 ft.

HEMPSTEAD COUNTY—Dixie Drlg. Co.'s Vada Wheatley 1, nw sw ne 14-11-26, rur. May & Easton's Conway 1, sw nw sw 20-12s-27w, wocs 12½-in csg 80 ft.

LA. FAYETTE COUNTY — Earl F. Fox's Coleman 2, ne ne 30-16-24, elev 271 ft, top Nacatosh 1544 ft dr 2826 ft. Erwin & Leach's Bodcaw Lbr. Co. 3, nw nw 20-16-23, spd. Joe Modisett et al's Frost Lbr. Co. 1, sw sw 29-19-24, dr 2065 ft (sec hole).

MILLER COUNTY—King Oil Corp.'s Crank 1, sw ne 19-16-25, top Nacatosh 1950 ft. Annona chalk 2365-2735 ft arr set 7-in csg after running electrical tester, td 4000 ft. Mahan et al's Miller L&T Co. 1, sd 1902 ft.

OUACHITA COUNTY—W. B. Street Tr.'s Rath & Cartter 1, sw sw ne 35-13-18, 7-in csg 1398 ft arr deepen td 1403 ft. Phillips Pet. Co.'s J. D. Reynolds 1, 27-15-15, spd.

POINSETT COUNTY—Rockwell Dev. Co.'s W. A. Smith 2, ne ne 13-11n-3e, dr 2050 ft.

UNION COUNTY—I. J. Allen's Union Sawmill Co. 1, 8-17-12, sd 3045 ft. F. C. Henderson's Sheppard 1, 35-17-15, spd cemtd 10-in csg 150 ft.

CALIFORNIA

KERN COUNTY

BELRIDGE—Albert Beck's Beck-Bacon 1, 35-28-20, dr shale 1324 ft.

BUENA VISTA LAKE—Ohio's K.C.L. A-5, 31-31-26, rur.

COMANCHE POINT—Shell's Bank One 1, 15-32-29, sd 5394 ft. Tejon Ridge Oil Co.'s No. 1, 23-32-29, td 2182 ft, to deepen.

DEVIL'S DEN—Cumberland Oil Co.'s Mabry 2, 17-26-18, sd 4360 ft.

EDISON—Navy Oil Co.'s Caravel 1, 19-30-30, td 1447 ft, pumping water, trace of oil. R. & R. Dev. Co.'s R&R 1, 29-30-30, dr decomposed granite 1050 ft.

FRUITVALE—Elliott Core Dr. Co.'s Elliott 1, 14-29-27, td 3210 ft, top os at 3053 ft, formation tester showed wet.

GRAPEVINE—Silver Gate Co.'s Tejon 1, 7-10-19, sd 2985 ft.

GREENFIELD—Speik Oil Co.'s Ricomini 1, 23-30-27, dr gray sand 5600 ft.

KERNELL—Standard's Widgeon 3, 1-25-23, td 4130 ft, plug back to 3846 ft to test gas showings.

LOST HILLS—Standard's United 1, 2-26-20, td 5857 ft, fsh.

McKITTRICK—Belmac Drlg. Co.'s Douglas 1, 22-29-21, dr hard sand, sg 4780 ft.

MOUNTAIN VIEW—Standard's Garcia 1, 13-30-28, spud Jan. 15.

NO. MOUNT POSO—H. McMann's No. 1, 27-26-28, lcn. Santa Carla Oil Co.'s Glide 1, 7-26-28, sd 900 ft. Vedder Pet. Co.'s So. Pac. 1, 3-27-28, lcn.

RIO BRAVO—Ohio's No. 1, 1-30-25, lcn.

SO. BUTTONWILLOW — General Pet. Corp.'s No. 1, td 5452 ft, rep. equip to deepen.

STEVENS AREA—Shell's K.C.L. 1, 29-30-26, bldg rig.

MISCELLANEOUS

FRESNO COUNTY—Jas. M. Conlon Co.'s Spueser 1, 30-19-15, dr sand 60 ft. Milham Explor. Co.'s Boston Land Co. 1, 13-20-18, dr gray sandy shale 2754 ft.

KINGS COUNTY—Royalty Service Co.'s No. 1, 16-24-18, dr shale and sand 1764 ft, sg. Standard's Tulare Farms 1, 34-24-23, lcn. Union's Giannini 1, 28-22-20, spud Jan. 10, wocs 13⅜ in at 998 ft.

MADERA COUNTY—Pure's Chowchilla 2, 8-10-14, td 5592 ft, good for 10,000,000 cu. ft. gas on test, shut in; Security 1, abn 2772 ft.

MERCED COUNTY—J. R. Murrell's No. 1, 8-10-9, dr hard sand 650 ft.

SAN JOAQUIN COUNTY—Amerada's F. D. L. 4, 15-2-5, lcn.

TEHAMA COUNTY — Northern Counties Pet. Co.'s Ewers-Mooney 1, 25-24-3, co, td 5520 ft.

TULARE COUNTY—Kenwood Pet. Corp.'s Kenwood 1, 14-24-27, spud Jan. 14.

MONTEREY COUNTY—Shell's Branch 1, 34-24-10, dr gray sand streaks shale 7152 ft.

SAN LUIS OBISPO COUNTY — Birch-Royer Oil Co.'s Patchett 1, 33-31-13, td 1453 ft, cementing job wet.

SANTA BARBARA COUNTY

CARPENTERIA—Santa Barbara Oil & Gas Co.'s Bryce 1, 29-4-25, dr shale o&g on ditch 2100 ft.

LOMPOC—M. J. Freeman's La Brea 1, 11-7-33, sd 1450 ft. Lompoc Pet. Co.'s Beauterbough 2, 18-7-34, sd 3940 ft.

NORTH MESA—Humphries et al, Edna

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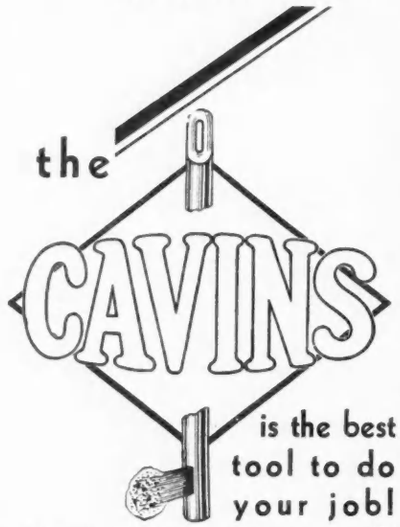

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May 1, 26-4-27, dr gray sand 1418 ft, top Sespe 860 ft.

SUMMERLAND—Marmonte Oil Co.'s No. 1, 16-4-26, sd 1600 ft.

VENTURA COUNTY

BARDSDALE—Duke Oil Corp.'s No. 1, 7-3-19, dr sand so, 1924 ft. El Rancho Oil Co.'s Elkins 1, 9-3-19, sd 1083 ft. Union's Dryden 10, 12-3-20, td 5758 ft. Recement 8⅝ in at 5250 ft.

OJAI—Continental's Pirie 2, 12-4-23, td 1017 ft, wocs 11¾ in at 473 ft.

OXNARD—General Pet. Corp.'s McGrath 1, 26-2-23, abn 7635 ft.

PADRE CANYON — Continental's Hobson 1, 15-3-24, td 4824 ft. Recemented 11¾ in at 4425 ft, wet, redr 4720 ft.

PIRU—Bolsa Chica Oil Corp.'s Snow 3, 4-4-18, spud Jan. 17.

SANTA PAULA — High Mesa Oil Co.'s Butcher 1, 16-4-22, sd 650 ft.

SHIELLS CANYON—Bankline Oil Co.'s Calumet B-2, 3-3-19, dr sand and shale 3260 ft. Texas Co.'s Shiells 129, 4-3-19, rigging up.

SIMI—Dawson Oil Co.'s No. 1, 8-2-17, sd 1910 ft. Jas. S. Hull's No. 1, 2-2-18, sd 1490 ft. Paloma Oil Co.'s Paloma-Marr 1, 12-2-18, sd 2806 ft.

SOUTH MOUNTAIN—Calco Pet. Corp.'s Calco 3, 17-3-20, rur.

VENTURA—Ventura Explor. Co.'s Sexton 1, 30-3-22, sd 7068 ft.

SOUTHERN CALIFORNIA

ARTESIA—Vanco Dev. Co.'s Millard 1, 25-3-12, td 5888 ft, testing with electrical apparatus from 3600 to 3800 ft, to core ahead to 6200 ft.

CARBON CANYON—Tehama Pet. Corp.'s Kramer 1, 33-2-8, td 3053 ft, perf 1120-1450 ft, tested wet, sd.

DOMINGUEZ—West American Oil Co.'s Del Amo 1, 3-4-13, dr sandy shale 4312 ft.

EAST MONTEBELLO — Wilshire Annex Oil Co.'s Baldwin C-1, 11-2-11, abn 4297 ft, had no showings.

EL SEGUNDO—Larco Oil Co.'s Van 1, 12-3-15, abn 7600 ft. L. J. Marvin's Woods 1, 7-2-14, td 6359 ft, to dr deeper.

HUNTINGTON BEACH—20th Century Oil Co.'s Caman 1, 36-5-11, td 5118 ft, to dr deeper, rur.

KRAEMER—T. W. Cook Dr. & Service Co.'s Cooke 1, 25-3-9, td 2657 ft, ran 5½-in liner 264 ft, perf to bottom, made 50 bbls, 14 gravity oil, cut 30 percent on pump test. Standard Oil Co.'s Yorba Com. 1, 36-3-9, td 2714 ft, redr to 2534 ft, formation tester showed mud.

LAWNDALE — Sovereign Oil Corp.'s Ben Long 1, 22-3-14, td 8766 ft, plug 8289 ft, standing cemented.

NEWHALL—Yant Pet. Corp.'s No. 5, 1-3-16, sd 1070 ft.

NEWPORT—Commander Oil Co.'s Mesa 1, 26-9-10, td 560 ft, co.

PICO—Frontier Oil Co.'s No. 1, 12-2-12, sd 5251 ft, to drop from report.

PICO CANYON—N. M. Fraser's No. 1, 31-4-16, td 955 ft, pumping water.

PUENTE — North American Oil Consolidated's Smith 3-1, 30-1-10, sd 5952 ft. Chas. R. Butler's Butler 1, 14-2-10, dr sandy shale 2391 ft.

SAUGUS — International Oil Developers' Powell 2, 34-5-16, abn 2198 ft, no decision as to third hole.

TOPANGA CANYON—Monarch Pet. Co.'s Sylvia Park 1, 5-1-16, td 650 ft, co.

TORRANCE—Eyer Pet. Corp.'s No. 1, 26-4-13, dr hard shale 2966 ft. Oliver McDowell's No. 1, 35-3-14 sd 4633 ft. Pioneer Holding Co.'s Pioneer 1, 33-3-14, sd 4317 ft.

VENICE—DEL REY—Eastern Oil Co.'s Water Co. 1, 22-2-15, spud Jan. 11.

WEST LONG BEACH—Shell Oil Co.'s Amebco 1, 13-4-13, dr gray sand streaks shale 4985 ft.

WILMINGTON — McAdams Explor. Co.'s Palos Verde 1, 31-4-13, dr shale (Miocene) 4390 ft, and may abn.

YORBA LINDA — Continental Oil Co.'s Carlton-Com. 1, 21-3-9, spud Jan. 15.

RIVERSIDE COUNTY—Albert Pet. Co.'s Watt 2, 23-7-3, td 2785 ft, plug 2290 ft, wet, to plug back to 2200 ft. Fred E. Stevens' Everett 1, lcn.

SAN BERNARDINO COUNTY—Equitable Pet. Explor. Co.'s No. 1, 11-10-5, td 1999 ft, ran 8⅝-in with 170 ft perf to bottom.

COLORADO

ADAMS COUNTY—Hills Dome Oil Lease Hills 1, csl se se 27-3s-64w, cemented cave 4203 ft.

ELBERT COUNTY—Ramsey Petroleum Co. Union Pacific 1, center 13-8s-57w, dr 5717 ft. Lakota sand topped at 5691 ft.

JEFFERSON COUNTY—Ruby Hill Oil Co. Braden 1, se se 24-4s-69w, fsg pipe 4385 ft. Rainbow Oil Co. Johnson 1, ne 30-4s-68, lcn.

LARIMER COUNTY—California Co. 1, se sw ne 6-11n-69w, dr 1400 ft.

MONTEZUMA COUNTY—R. R. Burke Ute 32, csl ne ne 15-32n-18w, dry and abn 394 ft.

MORGAN COUNTY—Swisher et al Lunt 1, sw sw sw 3-5n-60w, straightened hole 1060 ft. td 1300 ft.

FLORIDA

HILLSBOROUGH COUNTY—Southern Pet. Co.'s Mizell & Williams 1, se ne 4-32s-21e, elev 120 ft dr 2625 ft blue shale.

LAKE COUNTY—Oil Dev. Co. of Fla's Gulf Expl. Co. 1, se se 17-24s-25e, elev 120 ft 9⅝-in csg 2200 ft blg td 2258 ft Argillaceous limestone.

KANSAS

BARTON COUNTY—Witt et al's Murry 1, nw nw sw 14-17s-14w, sd 3477 ft. Torrey & Feaster et al's Kempler 1, se ne ne 31-18s-11w, dr 3210 ft. Yarnell, Carlson & Spencer's Bloomer 1, ne ne nw 36-17s-11w, set 12-in csg 680 ft, dr 1442 ft. Morgan & Flynn et al's Amerine 1, ne ne ne 14-19s-14w, set 8-in csg 819 ft, dr 850 ft. Morgan & Flynn et al's Zimmer 1, se se sw 20-19s-14w, set 20-in csg 110 ft, dr 135 ft. Buchanan & Alexander's Langford 1, ne ne sw 14-20s-11w, ru.

BUTLER COUNTY — Pryor & Lockhart's Boucher 1, nw nw nw 19-17s-4e, co 114 ft. National Ref. Co.'s McCullough 1, ne ne sw 1-28s-6e, set 10-in csg 1718 ft, co.

COWLEY COUNTY—Aylward, Trees Oil Co. et al's Shield 1, sw sw sw 17-32s-6e, dr 1645 ft. Roth & Farout's Sherwood 1, ne nw sw 11-31s-4e, dr 1800 ft. Penwest's Clover 1, ne se se 8-31s-7e, dr 1560 ft. Reed & Milligan's Houston 1, nw nw sw 10-31s-4e, sd 1680 ft. Trees Oil Co.'s Garber 1, ne ne sw 28-31s-5e, dr 2440 ft. Winkler-Koch et al's Harlan 1-B, cs¼ nw ne 13-31s-7e, dr 2440 ft.

GRAHAM COUNTY—Vickers Pet. Co. et al's Hutton 1, ne ne se 29-8s-22w, td 1375 ft, 12-in csg parted.

GREENWOOD COUNTY—Mohawk Oil Co.'s Edgar 1-A, ne ne sw 2-28s-8e, td 2548 ft, swab 3 bbls oil. Anderson & McGinnis' Jensen 1, se se sw 30-23s-12e, dr 1000 ft. N. C. Dunn's Dawson 1, cnw ne 27-26s-13e, dr 925 ft. Sharpless et al's Cook 1, nw nw nw 15-24s-10e, spd & sd.

HARPER COUNTY — Marathon Oil Co.'s Zellers 1, csw nw 17-35s-8w, set 12-in csg 3820 ft, woc at 3940 ft.

HARVEY COUNTY—Ok-Tex et al's Osborne 1, cse se 6-23s-3w, sd 3626 ft. Empire O&R Co. & Ryan Drlg. Co.'s Webster 1, se se sw 8-24s-2w, set 20-in csg 20 ft, co.

NORTON COUNTY—Lario O&G & Elwell's Kennedy 1, sw sw nw 22-3s-23w, dr 2465 ft. Helmerich & Payne et al's Collins 1, cne ¼ 11-3s-25w, rur.

PRATT COUNTY—Skelly et al's Gilchrist 1, cse ¼ 7-28s-11w, pb 4245 ft, no test. Lario, Elwell & Atlantic's Lemon 1, se se nw 12-29s-13w, woc at 915 ft.

RENO COUNTY—Foraker et al's Hiett 1, se sw ne 34-24s-4w, sd 1770 ft. Olson Drlg. Co. et al's Krantz 1, ne ne se 13-25s-5w, dr 4115 ft. McPherson Drlg. Co. & Derby Oil Co.'s Schuechzer 1, ne se sw 17-23s-4w, dr 3157 ft. Rose Spring Drlg. Co. & Foraker's Brauer 1, sw sw se 4-26s-4w, dr 3925 ft. Darby Oil Co.'s Schrock 1, se se sw 27-24s-5w, sd 3878 ft.

RICE COUNTY—Permian Oil Co's Conner 1, cne ne 28-19s-7w, dr 3635 ft. Skiles et al's Edwards 1, nw nw ne 3-18s-8w, td 3281 ft, 2500 ft oih, no test. Day's Mason 1, nw ne ne 26-21s-7w, td 3400 ft, 700 ft oih 5 hrs, no test. Vernon O. & G. Co. and Cusco Oil Co.'s Boldt 1, nw sw nw 10-19s-10w, ur 8-in csg 2320 ft. Gratton et al's Williams 1, sw sw nw 17-18s-7w, rig. Franco-Central et al's Shonyo 1, sw sw ne 11-18s-10w, dr 2069 ft.

ROOKS COUNTY—Gillespie & Son's Low 1, ne ne nw 12-6s-18w, dr 3162 ft. Murfin et al's Wasthusin 1, ne ne se 12-6s-18w, dr 550 ft. Pryor & Lockhart's Bradley 1, sw sw ne 31-10s-16w, sd 625 ft.

RUSH COUNTY—Torrey & Feaster et al's Winget 1, se se se 15-16s-16w, rig.

RUSSELL COUNTY—Phillips Pet. Co. & Sinclair Prairie Oil Co.'s Driscoll 1, nw nw se 31-15s-11w, rust 3041 ft. Coraleana Oil Co.'s Diskon 1, se se se 30-15s-13w, dr 2900 ft. Warren Pet. Co.'s Bratton 1, se se se 25-11s-13w, dr 2650 ft. Central Pet. Co.'s Benso 1, se se sw 9-14s-15w, co 2390 ft. Sam Murphy et al's Enochutz 1, sw sw sw 10-15s-13w, fsg 2500 ft. Hartman & Blair's Boxberger "B" 1, ne se sw 5-14s-14w, ru. Eisenhour & Shaffer's Humes 1, sw sw sw 6-14s-12w, rig. R. C. Torrant's Williamson 1, se se nw 9-14s-14w, dr 1865 ft. Reynolds' Fredrickson 1, se sw se 6-13s-12w, co 365 ft. Empire et al's Major 1, se se se 11-14s-12w, cellar.

SEDGWICK COUNTY—T. C. Johnson's Jensen 1, sw sw nw 11-28s-2e, lcn.

STAFFORD COUNTY—Herndon Drlg. Co. et al's Russell 1, cse nw 20-21s-14w, rng 5-in csg 3690 ft. Farris et al's Snyder 1, se se nw 3-21s-11w, dr 475 ft.

SUMNER COUNTY—Pulse's Buss 1, nw nw nw 12-32s-2e, dr 3450 ft. Orcutt & Stew-

art's Newton 1, se se se 21-30s-2e, sd 475 ft. Helmerich-Payne's Wright 1, se se nw 10-33s-2e, dr 3459 ft. Husted et al's Evers 1, se se ne 27-31s-2e, dr 20 ft. Morgan et al's Veail 1, se sw ne 27-32s-2e, set 12-in csg 762 ft, dr 1100 ft.

TREGO COUNTY—Vickers Pet. Co. et al's Secor 1, nw nw nw 25-15s-24w, dr 4675 ft. Central Commercial's Wagg 1, nw nw se 17-13s-21w, dr 3441 ft.

WOODSON COUNTY—Morgan et al's Vermont Savings Bank 1, ne nw ne 15-25s-14e, dr 850 ft. Sheedy et al's Warner 2, sw sw sw 21-25s-14e, dr 1200 ft. Lewis et al's Riggs 1, sw sw sw 10-26s-14e, otd 765 ft, dr 900 ft.

NORTH LOUISIANA

BIENVILLE PARISH—DeSoto O&G Co.'s Mower 1, ne ne 9-16n-10w, rur. Lide & Greer's Davis Lbr. Co. 1, ne se 12-16n-5w, wocs td 2600 ft. Texas-Seaboard Oil Co.'s McGee 1, sw ne 3-16n-6w, elev 217 ft dr 3410 ft.

BOSSIER PARISH—McKinney & Humphrey's Bulkley 1, 36-21n-13w, dr 1350 ft hd sandy shale & strks lime. Producers O&G Co.'s Pettit 1, ne sw 17-17n-11w, elev 198 ft top chalk 1104 ft claim 14 ft lime sg, cemtd 7-in csg arr dr plug td 5260 ft.

CALDWELL PARISH—Critchett & Wood's Kyle 2, 18-11-3e, arr test reported so 1290 ft. G. W. Zeigen's La. Cent. Lbr. Co. 2, 19-14n-3e, dr 1100 ft.

CLAIBORNE PARISH—E. T. Oakes et al's Patton Est. 1, ne ne 1-20n-5w, arr deepen 4238 ft. Ryan Oil Corp.'s Gladney 1, ne sw 27-20n-7w, elev 343 ft top anhydrite 4485 ft sd 5007 ft. Sugar Creek Synd's Darrett 2, 31-21n-5w, sr to set csg td 5050 ft (9000 ft test).

DE SOTO PARISH—Alexander et al's Stell 1, 5-12n-16w, dr 4685 ft hd lime & shale.

JACKSON PARISH — Caldwell L&T Co.'s Burroughs Est. 1, ne nw 1-17n-1w, rur. G. W. Zeigen's La. Cent. Lbr. Co. 3, 26-14n-1w, lcn.

LINCOLN PARISH — Caldwell L&T Co.'s Hammons 1, nw ne nw 30-18n-1w, rur. Lide & Greer's T. L. James Co. 1, 9-17n-4w, rur. S. Gardner 1, 10-17n-4w, spd. Eastern Texas Prod. Co.'s Givens 1, owdd, td 3505 ft.

WEBSTER PARISH—Ohio Oil Co.'s R. L. Holloway 6, ne sw 23-21n-10w, 15¾-in csg 560 ft dr 4651 ft. J. L. Edwards' Hooper 1, nw sw 8-17n-9w, sd 755 ft.

WINN PARISH — P. E. Parsons' Tremont Lbr. Co. 1, nw sw 10-12n-2w, co to deepen td 1120 ft.

SOUTH LOUISIANA

ACADIA PARISH — Woodley Petroleum Company & Superior Oil Producing Co.'s Adams Smith 2, Bayou Mallett prospect, sec 47-7s-1e, lcn.

CAMERON PARISH—Pan American Production Co.'s Lutcher Moore 1, Mud Lake prospect, sec 14s-11w, abd 9227 ft. Magnolia's Miama Corporation 1, Willow Lake area, sec 32-12s-8w, mim.

EVANGELINE PARISH—Basile Oil Co.'s Hirsch 1, se of Hampton, sec 14-6s-2w, dr sand 7187 ft.

IBERIA PARISH—Jefferson Lake Oil Co.'s Lake Pegnuer 274, Jefferson Island dome, 12s-5e, cutting and pulling at 8469 ft.

JEFFERSON DAVIS PARISH — J. K. Lewis's Lock Moore 1, Heckner prospect, sec 32-7s-6w, moving in heavy rig at 6046 ft. Shell's Lacassine Irrigation Co. 1, Hayes prospect, sec 20-11s-5w, dr sand and shale 8718 ft.

ST. MARTIN PARISH—Texas Co.'s Lake Mengouloi 1, Lake Mengouloi prospect, sec 10-9s-9e, sd waiting on orders at 7584 ft, in salt, top salt 7540 ft. Shell's Colonial Sugar Inc. 1, Convent prospect, sec 5-12s-5e, 205 ft in shale. Texas Co.'s St. Martin Land Co. 1, Henderson prospect, sec 9-8s-7e, dr clay 205 ft.

TERREBONNE PARISH — Shell's Realty Co. 1, Houma Townsite prospect, sec 103-17s-17e, dr shale 7990 ft.

VERNON PARISH—Llano Oil Co.'s Llano F, sec 7-1n-9w, dr shale 2440 ft.

MICHIGAN

ANTRIM COUNTY—McClanahan Oil Co.'s Pearson 1, 31n-5w-4, sr 960 ft.

CLARE COUNTY—Sun Oil Co.'s Woodward 1, 19n-3w-24, dr 4180 ft.

EATON COUNTY — Burris and Keeler's Moon 1, 2n-4w-11, br.

GRATIOT COUNTY—Herbert Snell's Howe 1, 10n-2w-19, Dundee 3125 ft, sw 3165 ft, sd. Harley William's Smith 1, 9n-2w-29, dp. Mountain Oil & Gas Co.'s Walter 1, 11n-2w-17, dr 250 ft. Miller Bros.' Ryan 1, 9n-1w-22, sd 2370 ft.

HURON COUNTY—Walace Markle's Opaka 1, 15n-11e-4, sd 2700 ft.

IONIA COUNTY—Wittmer Oil Co.'s Kimball 1, 7n-5w-15, dr 2500 ft. Associated Petroleum Co.'s Refensdorf 1, 7n-8w-8, dr 600 ft.

ISABELLA COUNTY—J. C. Alder's Murphy 1, 14n-5w-12, woc 1200 ft.

KENT COUNTY—Rex Oil Co.'s Johnson 1, 10n-12w-36, dr 550 ft. James Barton's Smith 1, 10n-10w-29, sd 600 ft.

LAKE COUNTY—C. W. Teater's McCabe 1, 20n-12w-26, sd 830 ft. Frank Lyon's Alderton 1, 17n-13w-33, dr 2550 ft.

LENAWEE COUNTY—Socony Vacuum's McCarbery 1, 5s-5e-36, sd 2560 ft, sg & o 2470-90, 2550 ft. Mott and Denman's Huffman 1, 6s-3e-26, dr 150 ft.

MASON COUNTY—Dragoon Dev's Young 1, 17n-15w-15, sd 2450 ft. Max Prey's Barothy 1, 17n-15w-29, so, 25,000 ft gas, water, Traverse lime, 1900-1950 ft, dr 2100 ft.

MANISTEE COUNTY—Bolemax and Rademaker's Sands Lumber Co. 1, 21n-15w, ne sw-8, lcn.

MONTCALM COUNTY—Jetter Oil Co.'s McCracken 1, 9n-5w, nw se se sec 6, br. Old Dutch Co.'s Hansen 1, 10n-7w-21, dr 1000 ft.

NEWAYGO COUNTY — Triangle Oil Co.'s Vera 1, 14n-12w, se se se-5, lcn. J. G. Buell's Smith 1, 14n-11w-29, dr 2700 ft. E. M. Neff's Sippley 1, 16n-13w-26, sd 2450 ft.

SAGINAW COUNTY—Mid State's Burlson 1, 10n-5e-21, sp. Great Northern's Olmstead 1, 13n-3e-23, sd 1100 ft. Henry McEvoy's Jenacki 1, 12n-2w-31, rig. Pure Oil Co.'s Blumer 1, 12n-1e, sw sw sw-10, br.

TUSCOLA COUNTY—Smith Pet. Co.'s Boyce 1, 14n-7e-24, acidized at 2832 ft, to 5 bbls show Dundee lime. Bancroft Oil Co.'s Humes 1, 11n-8e, ne ne ne-21, br.

MISSISSIPPI

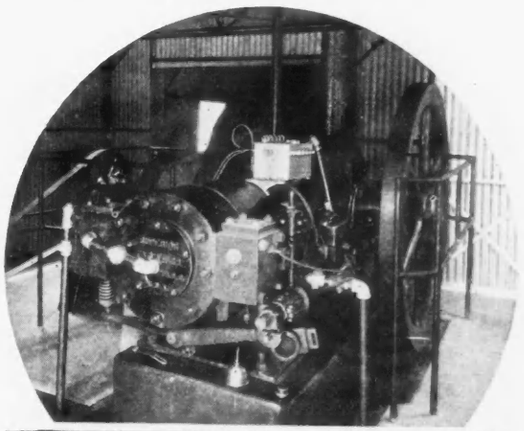
CLAIBORNE COUNTY — Mississippi Dev. Co.'s Crawford 1, 6-13n-4e, spd & sd.

HARRISON COUNTY—Big Ridge Oil Co.'s Hingin 1, se se 13-7s-10w, dr 1451 ft.

LAMAR COUNTY — Snow-Black Pet. Co.'s Miller et al 1, ne ne sw 3-4n-15w, dk.

WARREN COUNTY—Harry W. Elliott's R. L. Parker 3, 14-14n-1e, wocs 6⅝-in csg at 3105 ft td 3110 ft.

WILKINSON COUNTY—Chas. Green, Tr.'s Foster Creek Lbr. Co. 1, c se 8-3n-1e, dr 1050 ft.



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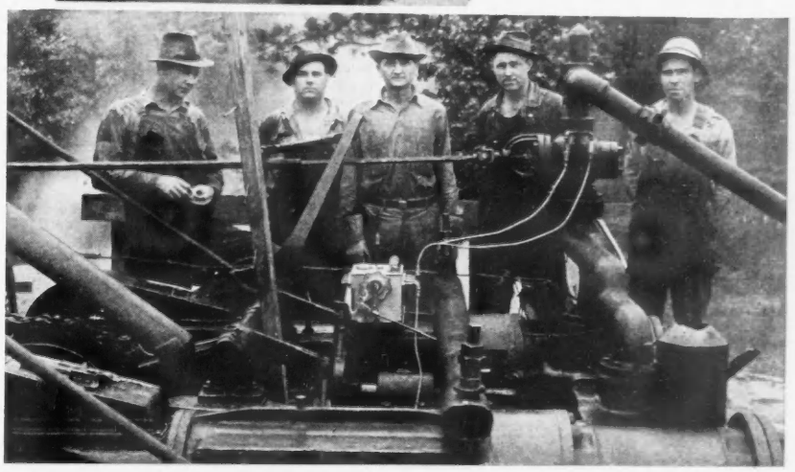

Above: A "STANDARD" Lubricator on a gas engine near Gladewater. Below: "STANDARD" Lubrication on a drilling engine near Kilgore. The crew, left to right: L. D. Smith, R. W. Kelley, T. Y. Allen, driller; L. N. Mayee and H. C. Harrell.

You'll see "STANDARD" Lubricators wherever you go in the vast East Texas field. And you'll hear favorable comments from any user you question. You'll notice, further, that engines, pumps, and any other equipment protected by "STANDARDS" are in first class working order. That's why you'll see so many of them in East Texas . . . or in any other active field in the great Southwestern oil belt. Operators everywhere are finding the improved design and many advantages of "STANDARD" Lubricators over old methods are taking the lubrication worries off their minds, and are cutting their maintenance costs.

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***Export:* Oil Well Supply Company**

MONTANA

CARBON COUNTY—Bailey-Round Butte Oil Co. 1, ne se 3-6s-22e, still fsg at 1551 ft.

FERGUS COUNTY—Judith Operating Co. 1, csw sw 26-22n-17e, dr 1079 ft.

GALLATIN COUNTY—The Montana Gas & Petroleum Co. Tice 1, ne ne ne 28-1n-2w, dr 2715 ft.

PONDERA COUNTY—Texas Co. 1 Unit-2, cnw 21-30n-5w, running 7-in csg to 2895 ft. The Norden Corporation's Hollan 1, nw nw nw 12-28n-6w, resuming dr after a sd for several months at 500 ft.

TETON COUNTY—Teton Oil Co.'s (Jerome Drumheller et al's) Reickoff 1, cne sw 14-24n-5w, dr 1100 ft and has had several sg.

TOOLE COUNTY—Boru Oil Co. 1, ne nw 31-33-4w, lcn.

NEW MEXICO

LEA COUNTY—Barnsdall Oil Co. et al's D. C. Hardy 1, c se ne 29-21s-37e, elev 3470 ft, stdz at 1265 ft, dr 1400 ft. Amerada's State 1-K, c se nw 29-19s-37e, sp. Amon G. Carter and Crafton Oil Co.'s M. A. Hair-Humble 1, c sw nw 11-24s-37e, elev 3231 ft, top anhydrite 990 ft, top salt 1220 ft, dr 2090 ft. Gypsy Oil Co.'s Annie L. Christmas 1, c se se 27-22s-36e, elev 3521 ft, rig. Harry Leonard et al's B. T. Lanehart-Humble 1, c sw ne 21-25s-37e, machine. Maljamar O&G Corp.'s Baish 6, c nw se 21-17s-32e, Maljamar area, sp. Ohio Oil Co.'s State 1, c sw se 30-19s-37e, Monument area, lcn. Repollo Oil Co.'s J. R. Phillips 1, SWc 31-19s-37e, Monument area, elev 3585 ft, dr 3625 ft; J. H. Williams 1, NEc 33-19s-37e, Monument area, elev 3587 ft, base salt 2530 ft, fsh 3754 ft. Skelly Oil Co.'s W. H. King 1, c ne sw 6-23s-37e, elev 3382 ft, rust, td 3690 ft; B. L. King 1, c sw se 32-22s-37e, dk; J. U. Baker 1, c se sw 22-22s-37e, lcn; Hugh O. Simms 1, c sw ne 4-23s-37e, elev 3323 ft, dr 3300 ft; Edgar L. Steeler 1, c nw ne 17-23s-37e, elev 3333 ft, dr 3550 ft. The Texas Co.'s J. M. Dean-Pure 1, c se sw 28-22s-36e, elev 3498 ft, top anhydrite 1330 ft, cored oil saturation in lime and sandy-lime 3640-3810 ft, dry after using 4000 gals acid, shot 350 qts nitro 3733-3810 ft and swabbed 27 bbls fluid 20 hrs, used 6000 gals acid, no results, dr white lime 3845 ft. Warren L. Todd, Inc.'s Lemon 1, c nw se 17-21s-32e, machine. Sam K. Vierson & Brown's W. D. Robinson 1, c nw se 14-11s-32e, elev 4355 ft, top anhydrite 1474 ft, top salt 1506 ft, top brown lime 3465 ft, cem 7-in cas 3680 ft, tested salt w 4213 ft, dr 4250 ft.

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ALFALFA COUNTY—Tex-O-Kan's Acre 1, csw ne 14-24n-11w, dr 7172 ft.

ATOKA COUNTY—Vierson et al's Williams 1, ne sw nw 34-2s-10e, dr 3600 ft. Pierce's Aetna Life Ins. 1-A, nw sw ne 10-1n-13w, td 4004 ft, d & a.

BEAVER COUNTY—Anderson-Kerr et al's Davis 1, csw se 36-5n-26 FCM, dr 5875 ft.

BECKHAM COUNTY—Benonine Oil Co.'s Smith 1, sw sw sw 17-8n-25w, dr 1978 ft. Speed & Barker's Stephens 1, sw sw nw 19-9n-22w, rog. Wood Pet. & Royalty Corp.'s Blair 1, nw nw se 32-9n-26w, co 300 ft.

CADDO COUNTY—Denver P. & R. Co.'s Sah-Cam 1, cse se 33-10n-10w, dr 9480 ft. Turner et al's Sapin 1, ne ne sw 1-5n-11w, td 3440 ft, dr cement 3335 ft.

CARTER COUNTY—Texas Co.'s Cathey 1, se ne ne 6-5s-1w, td 4157 ft, rng 8⅝-in csg 4095 ft. Carter's Humble-Williams 1, sw ne sw 27-2s-3w, cement back to 6850 ft, will dr around. Southern States Oil Co.'s Moore 1, ne se nw 30-4s-1w, sd 10 ft. Schermerhorn Oil Co.'s Floyd Clowdus 1, nw nw ne 2-4s-2w, ru mach.

CLEVELAND COUNTY—Mid-Continent's Butler 1, sw nw sw 7-3n-1e, dr 4920 ft.

COAL COUNTY—Carter et al's Thompson 1, csl ne nw 34-2n-9e, dr 6839 ft. Southern Oil Co.'s Fish 1, sw sw sw 6-1s-8e, dr 1500 ft. Shell's Hill 3, se se nw 30-3n-10e, woc at 580 ft.

COMANCHE COUNTY—George Pace et al's Spencer 1, sw sw sw 21-3n-10w, set 8¼-in csg 1648 ft, wocs. John Nicholas' Hauseholder 1, ne ne sw 8-2n-10w, sd 959 ft.

COTTON COUNTY—Grace & Woods' Alva Henderson 1, ne se se 27-4n-11w, dr 1388 ft.

CREEK COUNTY—Summitt Drlg. Co. et al's Stone 1, sw se nw 12-14n-7e, td 4025 ft, d & a.

GARFIELD COUNTY—Sherry et al's Hoken 1, nw nw sw 32-20n-4w, set 10-in csg 234 ft, woc 290 ft.

GARVIN COUNTY—Suggett & McElreath's Hyre 1, ne ne se 23-3n-1w, set 10-in csg 134 ft, woc 178 ft.

GRANT COUNTY—Southern Oil Co. et al's Allen 1, sw sw se 36-26n-4w, dr by 5164 ft.

HUGHES COUNTY—Schumacher et al's Schumacher 1, ne nw ne 23-5n-10e, dr 1040 ft. Halsey's Eastep 1, nw nw sw 11-8n-9e, dr 3140 ft. Canavan's Meadors 1, ne se sw 5-8n-10e, dr 1200 ft.

JACKSON COUNTY—Universal Oil Co.'s Briscoe 1, nw sw ne 36-1s-20w, dr 230 ft. Jackman's Fee 1, sw sw sw 27-1s-24w, dr 620 ft.

JEFFERSON COUNTY—Heydrick's Seay 1, se nw nw 31-6s-5w, fsg 1737 ft. Sinclair Prairie's Barrett 1, nw nw nw 31-5s-6w, rig. Geo. Pace's Gardner 1, sw sw sw 23-5s-5w, sd 600 ft. Campbell's Trout 1, se ne ne 6-8s-7e, dr 375 ft.

JOHNSTON COUNTY—Equitable O. & G. Co.'s Bellsey 1, ne ne sw 12-2s-4e, dr 1936 ft. Moore & Wirick's Westheimer & Daube 1, se nw ne 19-3s-4e, sd.

KAY COUNTY—Black Gold Pet. Co.'s Cooley 1, ne nw sw 25-28n-4e, fsg 250 ft.

KIOWA COUNTY—Beeler & Klein's Van Kirk 1, ne ne sw 35-7n-15w, sd 607 ft. Burns & Moore's Webster 1, cne ne 2-6n-17w, dr 50 ft.

LE FLORE COUNTY—McGraw et al's Tidwell 1, cnw se 17-3n-22e, sd 1155 ft.

LINCOLN COUNTY—Texas Co.'s Vanderpool 1, nw sw se 11-16n-3e, dr 4746 ft. Stanolind-Amerada's Crawford 1, ne ne se 35-15n-2e, td 5229 ft, rust. The Texas Co.'s Andrew 1, nw ne se 28-14n-5e, td 3593 ft, ½ million ft gas.

LOGAN COUNTY—Stanolind - Amerada & Eason's Gragg 1, sw sw ne 20-18n-4w, rust 5860 ft. Spring Rose Drlg. Co. et al's Wright 1, sw sw nw 32-15n-1e, sd 5112 ft.

LOVE COUNTY—Sinclair Prairie's Stockton 1, se se sw 26-6s-2w, td 7165 ft, pb 5432 ft, wocs. Amerada & Stanolind's Westheimer & Daube 1, sw se sw 27-6s-2w, dr 4490 ft.

MARSHALL COUNTY—Singley's Vickers 1, nw sw nw 22-7s-4e, sd 225 ft. Singley et al's Halford 1, sw se sw sw 22-7s-4e, dr 275 ft. Smith's Chestnut 1, ne ne ne 23-8s-5e, co 175 ft.

McCLAIN COUNTY—Arab Pet. Corp.'s Autry 1, nw nw nw 16-7n-3w, dr 5680 ft.

McINTOSH COUNTY—I. T. I. O. Co.'s Toncred 1, sw sw ne 9-9n-14e, td 2967 ft, taking pressure test.

MURRAY COUNTY—Hernsby & Jones' Sadler 1, ne ne nw 20-1n-2e, sd 1680 ft.

OKFUSKEE COUNTY—Sunray's Culla 1, ne sw ne 13-12n-8e, td 4194 ft, d & a. Sherry's Washington 1, sw sw ne 21-13n-7e, fsg bailer. Geo. Manahan & W. D. Grisso's Dalton 1, se se se 36-10n-8e, rig.

OKLAHOMA COUNTY—Sinclair Prairie's Corbett 1, ne nw ne 17-13n-3w, dr 5893 ft. Mid-Continent's Dahl 1, ne ne nw 8-13n-3w, dr 6446 ft. Sinclair Prairie & Slick-Urschel's Heavey 1, ne ne nw 17-13n-3w, dr 5653 ft.

PONTOTOC COUNTY—Gypsy's Emry 1, sw sw ne 15-2n-6e, dr 5485 ft. Delaney et al's Hillsdale 1, se se ne 35-4n-6e, dr 1512 ft. Patsy Oil Co.'s Magnuson 1, sw se se 23-2n-7e, dr 3110 ft. Pioneer O. & G. Co.'s Bayne 1, se sw sw 16-5n-6e, pb 2760 ft, testing.

POTTAWATOMIE COUNTY—Magnolia's Devault 1, sw nw se 22-6n-4e, rur.

ROGER MILLS COUNTY—Anderson & Kerr et al's Teeter 1, cse se 2-17n-25w, dr 6250 ft.

SEMINOLE COUNTY—Felmlee & Nichaelson's Belford 1, se nw ne 15-9n-8e, fsg 1525 ft.

STEPHENS COUNTY—Clyde Rhodes et al's Doak 1-A, sw sw sw 1-1s-5w, rur.

TILLMAN COUNTY—Gypsy's Schenck 1, se nw se 31-1s-16w, sd 2970 ft.

WASHITA COUNTY—McWhirter et al's Fee 1, sw sw sw 34-8n-19w, sd 1347 ft.

EAST TEXAS

ANDERSON COUNTY—Jim Patton and Otis Phillips' J. W. Foche 1 (155-ac), Jas. Madden sur, Long Lake area, elev 301 ft, Pecan chalk 3506-3665 ft, Austin chalk 4610-4925 ft, top gas sand 5210 ft, td 5350 ft, completed as big gasser,

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no oil or water. Burke Bros. et al's S. G. Moore 1 (36.3-ac), J. C. Rosson sur, Camp Hill area, lcn. Sun Oil Co.'s Carl Rosson 1, W. T. Davis sur, Camp Hill area, elev 567 ft, Pecan chalk 3877-4219 ft, base Austin chalk 5043 ft, top Sub-Clarksville sand 5058-5073 ft, sd to cem cas 5030 ft. Tide Water & Texas Seaboard's Shaw & Cern 4 (1216-ac), Daniel Parker sur, Long Lake area, elev 301 ft, top Pecan chalk 3523 ft, top Austin chalk 4623 ft, cored oil sand 5338-5347 ft, testing; M. J. Reagan 1 (214.8-ac), John Adams sur, rig.

CASS COUNTY—American Liberty Oil Co.'s J. B. Rodgers 1 (167.95-ac), C. M. Robinson sur, Rodessa area, elev 238 ft, top Hill sand 5737 ft, dr 6700 ft. R. W. Norton, Tr.'s L. A. Haywood 2 (440-ac), P. Evans sur, west Rodessa field, lcn; Mary Rives 1 (85-ac), John Collum sur, w Rodessa field, elev 277 ft, top chalk 1895-2485 ft, top Red Beds 3394 ft, dr 4900 ft. T. H. McElvain et al's C. M. Beckett 1 (7.62-ac), John Collum sur, west Rodessa field, lcn.

COLLIN COUNTY—Port Bolivar Oil & Ref. Co.'s Clarkston-O. G. Durning 1-A (140-ac), Wm. Creager sur, Pat. No. 1193 ft, elev 722 ft, sd 3866 ft; J. Shirley 1-A (1st hole jkd at 1963 ft), James Sorrell sur, Pat. No. 3609, sd for rotary rig.

DELTA COUNTY—Delta O&G Co.'s J. H. McKinney 1 (59-ac), Lavina Hampton sur, 3 mi nw Cooper, elev 530 ft, top Blossom sand 1108 ft, sd 1875 ft.

FREESTONE COUNTY—J. P. Haley and C. F. W. Young's Jack Eppes 1, D. Bullock sur, top Pecan chalk 2965 ft, Austin chalk 3761-4143 ft, sd 4146 ft.

GREGG COUNTY—G. Killingsworth et al's fee 1 (50-ac), Henry Hathaway sur, 9 mi n Longview, dr 2010 ft.

GRAYSON COUNTY—Olson Drl. Co. et al's Southwestern Life Ins. Co. 1 (160-ac), J. C. Jamison sur, A-865, 3 mi n Pottsboro, elev 767 ft, Trinity series fr surface to 850 ft, Springer shale 850-1240 ft, Mississippian Caney shale 1240-4308 ft, fine grained sand 4308-4482 ft, with odor o&g 4441-82 ft, chert fr 4482 to 4637 ft, top Woodford shale 4637 ft, drl by junk, td 4670 ft. Port Bolivar Oil & Ref. Co.'s Creed Taylor 1 (160-ac), J. Fitzhugh sur, 3 mi se Gunter, sd 3931 ft.

HENDERSON COUNTY—C. & G. Oil Co.'s Sterrett 1, dr 1610 ft. L. V. Marmar et al's I. W. Brown 1 (18¾-ac), R. H. Pearson sur, nw Cayuga, dk. Sparks et al's Theo. E. Berry 1 (167.8-ac), Aaron York sur No. 847, 5 mi s Brownsboro, mim. H. M. Wilson et al's fee 1 (943-ac), Thomas Caro sur, 5 mi n Malakoff, sd 2200 ft.

KAUFMAN COUNTY—C. C. Pearson et al's G. W. Martin 1 (100-ac), W. F. C. Butler sur, elev 429 ft, Austin chalk 1940-2200 ft, sd 2402 ft.

LAMAR COUNTY—Bruce Bros. et al's Chas. Price 1, Wm. Nelson sur, 1 mi w Trout, elev 484 ft, sd 326 ft. L. W. Dennis et al's W. C. Clark 1, G. H. Hall sur A-402, 3 mi ne Reno, lcn. L. W. Dennis tr's Effie Lawrence, T. B. Roundtree sur, 2 mi ne Blossom, dk. Texas Gulf Pet. Co.'s A. L. Darnell 1 (40-ac), H. L. Williams sur, 4 mi ne Paris, elev 544 ft, Austin chalk 816-864 ft, top Woodbine 948 ft, top Red Beds 1002 ft, sd 2620 ft.

LIMESTONE COUNTY—David J. Crawford et al's Mrs. R. P. Ward 1 (28-ac), Pedro Varella sur, elev 509 ft, est 15 bbl pumper, td 3001 ft; Mrs. R. P. Ward 2, elev 508 ft, top Woodbine pay 2985 ft, td 2997 ft, pb to 2991 ft, shut off water. C. F. Lytle et al's Thompson-Magnolia 1, Mexia field, Trinity sand test, rig. Money Oil Co.'s Bill Rosson 1, blk 4, Pedro Varella sur, old Nigger Creek field, rig.

MORRIS COUNTY—Steve J. Rotundi et al's W. & C. Smith 1 (50-ac), M. C. Vela sur, 2½ mi sw Naples, top Navarro chalk 2258 ft, dr 2530 ft. Ray Cotuck, Inc., P. M. Staggers 3 (40-ac), J. D. Nelson sur, lcn.

NAVARRO COUNTY—E. M. Thomason & Co.'s Estes Bros. 1 (58-ac), blk 11, Wm. Gilbert sur, 1 mi e Roane, dr 1260 ft. Peyton Bros. et al's J. F. Rushing 1 (12½-ac), Henry Ford sur No. 272, 3 mi w Currie, top Austin (broken) chalk 2112 ft, hard chalk 2131-2515 ft, top Woodbine sand 2821 ft, water sand 2852-62 ft, testing.

RAINS COUNTY—W. A. Allen, Geo. W. McClung et al's Ida Bullard 1 (75-ac), Nancy Brantley sur, 2 mi sw Emory, sp and sd.

RED RIVER COUNTY—J. S. Abercrombie Co.-Harrison Oil Co.'s T. L. Knight 1 (231-ac), Robt. Hill sur, 13 mi n Clarksville, rig. Annona O&G Co.'s Leo & Otto Roberts 1 (200-ac), James Bankston sur, 2 mi ne Annona, spd and sd. W. G. Clark & R. H. Chew's J. F. Brooks 1 (321-ac), Ben Gooch sur, ½ mi s Bagswell, elev 484 ft, dk. Garson & Seigel's W. T. Morris 1 (351-ac), Joseph Guest sur, 1 mi s Detroit, elev 478 ft, sd 825 ft.

RUSK COUNTY—J. W. Shipman et al's Citizens Nat'l Bank (L. T. Burton) 1-A, (125-ac), J. J. Y'Barbo sur, 4 mi ne Henderson, elev 432 ft, sd 3300 ft. McCallum et al's E. C. Gray 1 (265-ac), John Piburn sur, 5 mi s Henderson, dk.

SMITH COUNTY—Frank D. Staples et al's Luther Hale 1 (115-ac), T. C. Williams sur, 3½ mi nw Arp, elev 504 ft, sp and sd. W. L. Cloud et al's Dora Kendall 1-A, John Williams sur, cem cas 180 ft. Winona Oil Corp.'s McClung 1 (23½-ac), E. Newberry sur, 1 mi e Winona, rig.

TITUS COUNTY—C. N. Housh, Thompson & Bob Peveto's C. M. Carr 1, (north) M. V. Delgado sur, 1½ mi e Talco, elev 370 ft, Pecan chalk 1611-1788 ft, top broken Austin chalk 3011 ft, top hard chalk 3032 ft, dr 3800 ft.

WOOD COUNTY—Gulf Prod. Co.'s C. D. McCollum (Stone) 1 (39.6-ac), Joseph Simpkins sur, ¼ mi s Alba, elev 456 ft, Pecan chalk 2370-2612 ft, Austin chalk 3700-3928 ft, trace heavy oil in shale 3956-60 ft, coring 3970 ft. N. M. Wilson and E. B. Germany's fee 1 (1-ac), J. Simpkins sur, Alba townsite, lcn.

UPSHUR COUNTY—J. K. Wadley et al's H. Williams 1 (27-ac), L. S. Van Roeder sur, Jamestown area, elev 306 ft, Pecan chalk 2408-2968 ft, Austin chalk 3665-3730 ft, Woodbine sand 3748-73 ft, Georgetown lime 3956-3966 ft, dry and abd.

SOUTH TEXAS

ARANSAS COUNTY—Buchingham Oil Co.'s McCampbell 1, commence corner lots 8 and 9, sec 41; lots 8 and 9, sec 42, McCampbell subd., James Orick survey, 2 miles nw of Aransas Pass, 8 ft from San Patricio County line, sp.

ATASCOSA COUNTY—R. C. Lee, Trustee (Atascosa Trust), U. A. Doumch 1, 152-acre tr, blk 10, J. T. Russell sur No. 1222, 3 miles No. Poteet, sd 1300 ft, brown sandy shale, for repairs. R. McIntyre's San Antonio Joint Stock and Land Bank (H. A. Billinck) 1, J. B. Woodleff sur No. 246, 7½ mi e Coughran, sd 1015 ft. L. L. Motes, Trustee's Atascosa Co. Subd. 1, 200 ft nl, 1300 ft wl, 1880 ft el 425-ac tr, John McNeil sur No. 1191, dr 235 ft.

BASTROP COUNTY — A. W. Phillips' Vaughn Lumber Co. 1, 1110-ac tr, F. Sartuche sur No. 10, 5 mi ne Bastrop, sd 54 ft.

BEE COUNTY—Geo. M. Church's Webb-Hearn 1, in 92-ac lease, E. Ryan sur, 2000 ft se disc well Beeville field, cleared hole 5935 ft, prep to set 7 inch casing to bottom, will perf

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5900-14 ft; G. A. Ray 1, Anna Burk sur, 2 mi e Beeville, sd 692 ft. Luling O&G Co.'s B. B. Ruhmann 1-D, blk 22, J. M. Thurston sur, ab 313, 700 ft ne 1-A, dry and abnd 3450 ft. H. A. Pressey's R. T. Hicks 1, 1120-ac tr, Jose M. Uranga gr, ab 668, 4½ mi s of Normana, ru. G. M. Richardson et al's Mengers 1, center w 100-ac of W. R. Ryan 500-ac tr, Wm. Allen sur, near Tynan, dk. Sun Oil Co.'s R. E. Borroum 1, Chas. Baker sur, w outpost Caesar field, sand 3085-92 ft, set 7 in csg 3085 ft, comp 126 BPD, ¼ choke, TP 375 lbs, CP 625 lbs.

BEXAR COUNTY — American Gas Co.'s Oliver No. 5, 400 ac tr, M. F. Rodriguez sur, Gas Ridge, sd 2996 ft. N. Anderson's Rudolph Vogt 2, 160 ft el, 2160 ft sl 92 ac tr, Chas. Johnson sur, abnd abt 600 ft. Tom Anderson's C. J. Krause 1, drilling. A. J. Byrne's Herman Neuman 1, 318-ac tr, L. Munoz sur No. 66, dry and abnd 850 ft. Carter & Ingersoll's Louis Mann 1, 60-ac tr, John Christopher sur, 3 mi s Von Ormy, td 520 ft, wait on 8⅛ in csg. Crouch & Shadrock's W. Kohler 1, spud with spudder, mir. Joe Deupree's R. S. Coffey 1-A, F. Rodriquez sur, 7 mi s San Antonio, dr 1110 ft; Wm. H. Russell 1, 525 ft sel, 4686 ft swl 723-ac tr, Fernando Rodriguez sur, 9 mi ne San Antonio, td 1001 ft, set 6⅝ in csg 980 ft, woc. H. J. Moore's Mrs. Leana Eisenhauer 1, 1113 ft el, 507 ft nl of 80-ac tr in Gertrude Rodriguez sur, 9 mi ne of San Antonio, dr 325 ft. Burt Mowinkle's Joe Kutzur 1, S. F. Longeville sur, e of S. A., dry and abnd 870 ft. O. M. Owensby's Minna Coreth 1, 284.04-ac tr, Adam Stafford sur No. 49, near Eckert field, dr 825 ft. H. A. Pagenkopf's Chas. Rittiman 1, 110-ac tr, J. Chappal sur, 12 mi ne San Antonio, near Kirby, coring 1200 ft, top Edwards lime 1110 ft. H. B. Starkey's (was Joseph H. Parker) M. McCloskey 1, F. A. Desaque sur, 5 mi nw Somerset, sd 803 ft. F. M. Shaver's A. W. Bitter 1, J. M. Baerrera sur, near McDonna, sd 881 ft; A. W. Bitter 2, J. M. Baerrera sur, partly ru and sd. Fred Thorman's Salm 1, Peter N. Hays sur No. 3, 2 mi s of Martinez, abnd 50 ft.

BLANCO COUNTY—R. T. Rowe & W. E. Nixon's Polk Morrisey 3, 2100 ft sl, 1540 ft wl, 222-ac tr, Thomas Webb sur No. 91, 3 mi e of Blanco, drilling 40 ft.

BROOKS COUNTY—The California Co.'s B. Garcia 1, tr No. 3, Las Mestina de Gonzalina gr., Alta Mesa dist, coring 2925 ft. Dick Young et al's Singer 1, ne¼ se¼, sec 312, dr 565 ft.

BURLESON COUNTY — Walter Blumenthal's G. V. Crain 1, W. C. Pearce sur, ab 297, 1 mi from Milam County line, dr 2175 ft.

CALDWELL COUNTY—Pat Armstrong et al's No. 1 N. Dunlap Est., 431-ac Farm in S. Seal sur, sd 21 ft. Detroit-Texas Dev. Co.'s W. P. Dunlap 3-A, S. F. Sanders sur, Dunlap area, td 2589 ft, bailing, oil show 2317-26 ft, set 4 in csg at 2073 ft. J. J. Elam et al's Francis-Brown-Cochran 1, W. F. Young sur, 5 mi e of Luling, sd 27 ft for orders. Exploration Dev. Co.'s (Fred Meyer) W. R. Eibaud 1, 57-ac tr, S. Seal sur, Dunlap area, mim. Joe Graham's Martindale 1, e of Staples, dr 315 ft. W. C. Jenning's McMahon 1, James Pinchback sur, se of Lockhart, dr 150 ft. Marts & Beavan's J. J. Jolley 1, E. Pettus sur, midway between Lockhart & Lytton Springs, dr 210 ft, shale. McNeil Pet. Corp.'s C. A. Lackey 1, 1½ mi sw Dale, sp. Ogden & Reed Oil Co.'s C. L. Lackey 1, tr 193 (100-ac tr) Squire Damon sur, 3 mi ne Dale, dry and abnd 2581 ft, top serpentine 1890 ft. Fred G. Scott's E. P. Dunavent 1, 4 mi se San Marcos, dr 135 ft. Sterling & Wilson's No. 1 M. L. Strawn, 747 ft sel, 1247 ft swl of tr, Pablo Martinez sur, at Lytton Springs Townsite, mir. Sun Oil Co.'s J. W. Meiars 1, 49.5-ac tr in C. W. Swearingen sur, 2 mi s of N. Dale field, dry and abnd 2328 ft. M. R. Tinkle et al's Arnold 1, S. Seal sur, Dunlap area, lcn.

CALHOUN COUNTY—Continental Oil Co.'s Am. Nat'l Realty Co. (Moody) 2-A (3), sec 6, blk C. P. Garcia sur, 9 mi se Seadrift, dr 7850 ft, shale. Plymouth Oil Co. & Humble O&R Co.'s Mrs. E. Welder 1, Gardner Smith sur, ½ mi w Heyser, N. Green Lake, td 5225 ft, set whipstock at 2207 ft in pb hole, sdtr 3602 ft.

CAMERON COUNTY — J. F. Anderson's Turfitt 1, blk 397, San Benito sub, Espiritu Santos gr, 3 mi ne Rio Hondo, sd 5194 ft. W. R. Daniels & King-Woods Oil Co.'s Port Isabel Co. 1, center lot 17, shares 29, 30 and 31, Buena Vista gr, 6 mi north Bayview, sp and sd, wor.

DE WITT COUNTY — Universal Oil & Glaspie's Schubel 1, C. Fitzgerald sur, ab 2 mi nw Yoakum, sd 425 ft.

DUVAL COUNTY—J. H. Chandler's Rita S. de Pena, Pena tr, sh 4, Mesquite gr, sand 2808-24 ft, sandy shale 2824-32 ft, oil odor, sd 2832 ft. Continental Oil Co.'s Clara Driscoll Sevier 7-A, sec 52, Santa Rosalia grant, dr 1836 ft. George Coates' P. L. Telford 1, 330 ft nl and wl, sur 386, east outpost well to Seven Sisters field, failed to show as producer in Loma Novia sand topped at 2655 ft, dr to Mirando. Chas. Daubert et al's D. F. Kreis 1, sec 518, 6 mi e Loma Novia, prep sp. Frank J. Gravis et al's Gravis et al 1, sec 250, 9 mi w San Diego, dst at 3080 ft, show little free oil and mud, dr ahead. Howard Pet. Corp.'s G. Ruiz 1, sec 5, e of Loma Novia, 4000 ft test, lcn. Humble O&R Co. No. 1 L. & P. T. Wright, 330 ft sl and el of tr SE¼ of sec 118, 1 mi n of Seven Sisters field, lcn. Intrepid Oil Co.'s Parr Ranch 1, 2590 ft sl, 150 ft el sec 26, 7 mi nw San Diego, swabbed some o&g, seat gave away and well temp abnd, 4-2-35; reinstated 1-19-36, prep to cement, perfs 4824-38 ft (squeeze job), td 4856 ft. Magnolia Pet. Co.'s J. M. Bennet 1, 330 ft sl and el sec 434, abt 5 mi ne Cole field, coring 2138 ft; Duval Ranch 4, sec 100, sand 1954-67 ft, set 7 inch csg 1954 ft, td 1938 ft, comp 60 BPD on pump. Marzo Oil Co.'s E. R. Hagist 2, sec 269, 480 ft e No. 1 Hagist, Hagist area, td 1469 ft, dr Gov't Wells; dst 1463-69 ft, show rainbow oil, lots gas, some sw. W. C. McBride, Inc.'s Hagist 1, blk 13, sec 267, dr 50 ft. Rogers O&G Co.'s Cuellar 1, sec 117, dr 2350 ft; J. D. Sutherland 1, sec 120, Hoffman area, td 2855 ft, set 7 in csg, Loma Novia sand 2863-85 ft, comp. est 20 BPH, ½ in ch. Santa Clara Oil Prod. Co.'s (Atkins & O'Neil) J. F. Welder heirs 1-A, NW¼ of sec "A" out of sur 103, 6 mi e and 1 mi n of Freer, cored Loma Novia sand 2915-20 ft. Westheimer & Daube's Z. Campos 2, ne½, sec 234, ½ mi east of Seven Sisters field, td 2687 ft, comp, flowed 25 bbls first hour, ⅜ in choke, 500 lbs CP, 200 lbs. TP; No. 3 Z. Campos, 330 ft sl, 990 ft wl of sec 224, 660 ft e No. 1, dk.

EDWARDS COUNTY — Paul Teas' J. B. Stewart 1, sec 2, GC&SF sur, 14 mi se Rock Springs, bldg dk 1026 ft, prep move on rotary to dd.

FRIO COUNTY — Amerada Pet. Corp.'s Cory & McWilliams 1, blk 13, Jose Arocha sur No. 298, 2¾ mi sw Smith 1, dr 3201 ft; No. 5 Halff & Oppenheimer, 466 ft from most easterly sw corner of S. Glenn survey, lcn; No. 6 Halff & Oppenheimer, 466 ft sl and el of San Antonio Ditch Co Survey No. 1104, move in dk. W. D. Bacon et al's J. F. Burns 1, Thomas B. Clifton sur, sw Bigfoot, dr 3836 ft. Thornton Davis et al's Halff & Oppenheimer 1, J. D. Clare sur No. 336, 1 mi w of Pearsall field, dr 258 ft.

GOLIAD COUNTY—Jane Oil Co.'s (Diamond Half Oil Co.) Gillett 1, J. Gomez sur, extreme western corner of county, near North Pettus field, dr 3350 ft. H. J. Porter et al's J. R. Kaufman 1, 40-ac lse, A. Trevino sur, 1000 ft e of Kaufman 1-C, Hords Creek, lcn. Thompson Drlg. Co.'s H. Taylor Est. 1, W. H. Smith sur, 6 mi n Goliad, sd 5301 ft, to set csg to td and perf between 4988-5023 ft. Zeni Oil Co.'s (was H. T. Potter et al) Lutenbacher 1, blk 25, Goliad Townsite sur, south of Goliad, ru.

GONZALES COUNTY—O. M. Owensby et al's (was Forrester Oil Co.) H. B. Steen 1, N. M. Bane sur, 12½ mi se Gonzales and 1000 ft fr road, coring 1796 ft. Tull et al's J. F. Bozka 1, 61.2-ac tr, B. McClure sur, s of Dilworth, sd 410 ft.

GUADALUPE COUNTY—Paul Armstrong's Clem Brodnaux 1, 36-ac tr, W. P. King sur, 2 mi ne Kingsbury, dr 1450 ft, shale. Eickenroht & Gallagher's O. H. Jahns 1, 840-ac tr, Green Dewitt sur, 3 mi sw South Darst Creek, Edwards lime test, dk. O. W. Killam's J. Reneker 1, in G. Chatwell sur, 3 mi sw Staples, dr 976 ft. A. D. Locke's Holmes 1, 1 mi nw Staples, dr 410 ft. R. C. Robbins' Mrs. J. W. Manford 1, Manes James Hodges sur No. 374, 1250 ft e Manford pool, ru to pump 2581 ft. Fred G. Scott's F. P. Pooley 1, 2 mi s Staples, dr 175 ft. H. P. Suggs et al's J. H. Sherrill 1, 2 mi s Staples, ru.

HIDALGO COUNTY—Dean Brothers' Mrs. Lula B. George 1, 230 ft wl, 150 ft sl, n 10 acres of S 90.11 acres of tr 13, Porc 41, Reynosa Juris, 7000 ft e of discovery, 700 ft n of production, lcn. Gulf States Oil Co.'s Delta Orchards 1, lot 2, blk 73, Las Mestinas gr, 1 mi s Mestinas field disc well, sd 1675 ft, to move in new rig; J. C. Engelman 3, 200 ft el, 330 ft sl, lot 3, blk 70, Las Mestinas gr, 700 ft e of Mestinas field disc well, lcn. Kingwoods Oil Co.'s Osca Daskam 2, blk 30, Porc 45, 10 mi ne Mission, dk. Maddox & Tatum's John H. Shary 1, tr 48-2, Porc 53, Reynosa Juris (abt 7 mi n and 1 mi w of city of Mission), 6000-foot test, prep to sp. Maxwell-Mundy-Morris' Southland Dev. Co. (Hidalgo County Water Control & Impr. Dist.) 1, lot 11, blk 20, Alamo Land & Sugar Co. Subd, Alamo gr, 4 mi s Alamo, sd 735 ft. Burton McCollum's John C. Engelman 1, 3 miles south and 2 mi e of Gulf States' No. 1 Engelman, lcn. Dayle L. Smith Oil Co.'s Fairbanks & Young 1, blk 44, Porc 46, Reynosa Juris, 4 mi e Samfordyce field, dr 1510 ft. Union Sulphur Co.'s ARGL&I 7, tr No. 2309, blk 59 about 4000 ft e of Mercedes field, set 10 inch sur csg 1259 ft, dr 1295 ft.

JACKSON COUNTY—L. A. Douglas et al's I. N. Mitchell Est. 1, 335-ac tr, Stephen F. Austin sur, 1 mi sw Lolita, dry and abnd 6047 ft.

JIM HOGG COUNTY—French Oil Corp.'s

E. Rodriguez 1, sh m-1, Partition of Las Cuevitas gr, dr 1975 ft. S. L. Miller Oil Co.'s Yeager 1, blk 6, sur 20, td 3559 ft, dr 3160 ft in sdtr hole. P. H. Neilson, Trustee, de la Garza 1, blk 293, Pippin sub, Randado gr, still sd 610 ft for water. G. C. Rankin's Vela 1, 350 ft nl and wl of blk 6, sec 5, dr 1865 ft.

JIM WELLS COUNTY—Houston Oil Co. et al's E. A. Hawkins et al 2, blk 11, Putnam sub, sh 3, San Diego gr, ½ mi n disc well, San Diego field, dr 3250 ft, gas sand 2952-80 ft, dst 2955-71 ft, show 350 pounds, 4 min. G. M. Richardson No. 1 J. E. Garrett, 1980 ft sl, 1640 ft el of sec 5, N. G. Collins gr, 15 mi n of Alice near Highway 66, mim for 6250 foot test, contract let to Burton Drlg. Co. M. T. Smith & Sons' J. C. McGill 1, N. Gussett sur No. 88, 660 ft s of Smith & Story No. 1 Dilworth gasser, Aramgosa dist, td 2344 ft, pb 2330 ft, comp. 20,000,000 cu. ft. gas. J. E. Walsh's W. D. Wade 1, lot 3, blk 6, W. H. Bode sub, Sandia district, gas sand 2914-20 ft, 5 in csg 2920 ft, now sd 2920 ft.

KARNES COUNTY — California Co. & Mills Bennett's J. R. MacDougal 1, 250 ft nel, 190 ft sel of Wm. Guthrie sur, 3 mi e Runge, sp.

KERR COUNTY—Auld & Evan's Heffner 1, sec 13, BS&F sur, ur 10 in csg 1100 ft. Eastland Oil Co.'s Jeff Love 7, 660 ft n and 150 ft e No. 1 Gant and Evans in J. Martinez sur, sec 1594, 640-ac tr, 6000 foot test, ru. Evans & Edmiston's Will Auld 1, 418-ac tr, sec 1592, 2500 ft sw Eastland No. 1 Love, sp with spudder.

KIMBLE COUNTY — Forest Dev. Co.'s Stapp 1, sec 682, dr 3550 ft.

KLEBERG COUNTY—John Bartlett's Anton Dietz 1, blk 16, sec 48, KI&T sur, 2 mi sw of Kingsville field, no rept. Harry Clark's W. S. Rogers 1, lot 1, blk 36, Kleberg sur, dropped 750 ft; J. W. Kellam 1, lot 5, sec 53, KT&I sub, 2 mi se Kingsville field, lcn abnd. Clark & Anderson's 1 J. W. Kellam, 330 ft sl and el, lot 7, section 53, KT&I subd, dk. Fidelity Explor. Synd.'s Sam Michalk et al 1, lot 5, blk 37, KT&I sur, 5 mi se Kingsville, dry and abnd 3109 ft.

LAVACA COUNTY—J. D. Aiguier et al's No. 1 A. A. Staffa, W. R. Henesy sur, 3 mi s of nl of county, derrick.

LEE COUNTY—Mills et al's Batey 1, W. Nichols sur, 14 mi nw of Lexington, top Edwards 3314 ft, testing 3331 ft.

LIVE OAK COUNTY—Earl Callaway et al's Moczygemba 1, lot 122, Geo. West sub, blk A, ab 113, S. L. Williams sur, td 3725 ft dr, Yegua sand 3558-96 and 2656-67 ft, show sw. Luray Oil Co.'s Little 1, M. M. Shipp sur, ne offset disc well in McNeill (North field), td 5302 ft, pb 5025 ft, perf above, completing show gas and some oil. Ogden & Reed's D. C. Reed 1, Clegg Ranch, sw part of county, ru. Santa Clara Oil Co.'s (Atkins & O'Neil) R. H. Corbett 1, Corbett sur (center of sur) core 2963 ft. L. W. Stieren's W. A. Smith 1, corrected lcn, 330 ft nl and wl of E½ of 181-ac tr, T. R. Reese sur, 6 mi ne Oakville, dk.

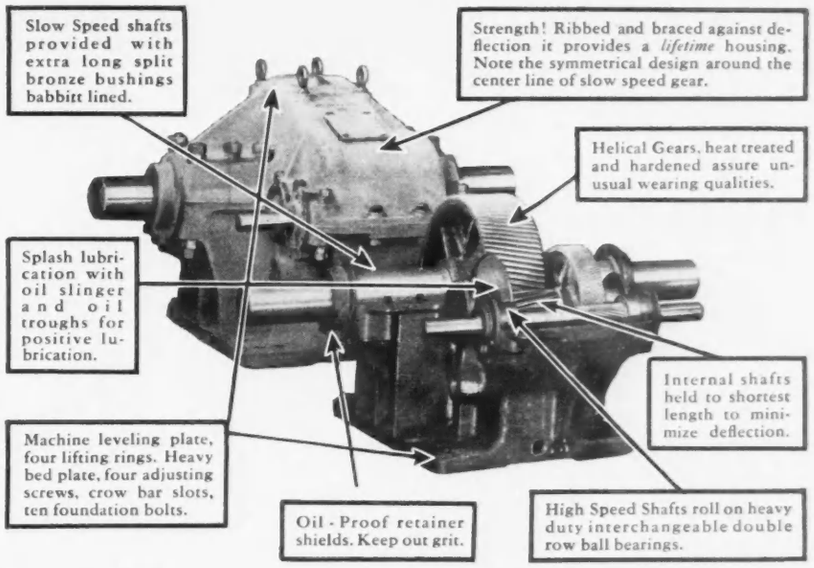
MAVERICK COUNTY—Fulwood & Marr's State Bank & Trust Co. 1, GC&SF sur No. 3, 2 mi n of Eagle Pass, sd 770 ft. Thompson & Streeter's Joseph Wipff 1, sec 18, 7 mi w Chittim field, 10 mi n Eagle Pass, sd 220 ft.

McMULLEN COUNTY—F. Daybault's Matula 1, 100-ac, James Garner sur, 2½ mi sw Calliham, td 651 ft, sand 643-46 ft, prep comp. Chas. A. Hall et al's Lucy Claunch 1, 200-ac tr in M. Hely sur, ½ mi s Calliham field, td 1260 ft, set 5 3/16 inch casing to 1000 ft, perf 925-39 ft, bailed salt water. Luray Oil Co.'s Glass 7, Gardner sur, Calliham area, sand 1035-40 ft, water broke in abnd. V. G. Schimmel, Trustee's (Texas Pet. Co. & Texio Oil Co.) E. R. Hagist 1, G. B. Kinney sur, sec 481, ab 1147, ½ mi w Loma Alta field, dry and abnd 2733 ft. Stewart et al's Guy Lowe 1, Geo. Bright sur No. 21, 2½ mi sw Tilden, sd 2250 ft. Stella Tiechman's J. J. Henry 1, 575-ac tr, A. Torres sur No. 21, ab 457, 7 mi w Tilden, sd 370 ft. Ike W. Taylor's H. L. Lark 1, blk 56, Lark sub, E. W. B. Scrugham sur, between Calliham & Jacob field, lcn.

MEDINA COUNTY—Frank A. Brown's A. E. Brueks 1, John Ward sur, sd 700 ft; Mary R. Winn 1, John Ward sur, td 60 ft, set sur csg and sd. W. C. Campbell et al (Ed Falvey et al's) McMenemy 1, sur No. 331, G. Petty sur, 4 mi se Devine, dr 2595 ft. Caroco Oil Co.'s R. Taylor 3, Brushet sur No. 135, dry and abnd 460 ft. Letro Oil Corp.'s F. B. Forest 1, sec 69, 1½ mi ne Ina field, 1½ mi Adams field, dr 1010 ft.

MILAM COUNTY — Minerva Ref. Co.'s Shelton Est. 4, 50-ac tr, Wm. Allen gr, Minerva-Rockdale area, lcn.

NUECES COUNTY — Benson & Cargy's Clarkwood Townsite 1, center blk 1, Clarkwood Townsite Saxet area, td 4408 ft, set 7 in csg at 4394 ft, sand 4400-08 ft, comp, flowing 6 BPH, 5/32 in ch, TP 400 lbs. CP 600 lbs. Masterson et al's Eschberger 1, sec 3, Driscoll Ranch, 5 mi s and w Robstown, D&A 6002 ft, Refugio Refining Co. (Garland Clymore) Jonas Weil 1, 80-ac tr, Villareal sur, 1 mi se Saxet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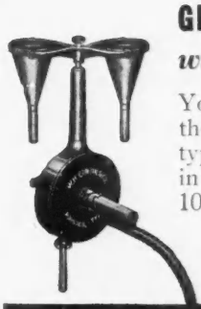

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Heights, set sur csg abt 500 ft. Sana Clara Oil Co.'s (Atkins & O'Neil) Clara Driscoll field, td 3774 ft, whipstock 2100 ft, dr 2400 ft in sdtr hole. Thompson & McGrew's A. F. Geistman 1, 150 ft nl and wl of 120-ac tr in J. R. Ward sur 316, offset to Nelson No. 1, Buckholt, lcn. Westgate Oil Co.'s Lynch et al 1, 8.3-ac lse, sd 500 ft, wait on drlg permit.

REFUGIO COUNTY — Texas Gulf Prod. Co.'s Carl Arnold 1, sec 33, Bonnie View subd, Wood Ranch, 9 mi se Woodsboro, dr 3965 ft. United Prod. Co.'s W. J. Fox 16, 182-ac tr, Hews & Brown sur, Fox area, td 5891 ft, set 7 inch csg at 5885 ft, completing; M. F. Lambert 22, blk 22, C. A. Hardwick sur, elev 65 ft d.f., coring 6226 ft; M. F. Lambert 23, 446 ft nl, 506 ft el tr 21, C. A. Harwick sur, lcn.

SAN PATRICIO COUNTY—Argo Royalty Co. & Willis Storm's Nancy Hobbs 1-A, 215 nw No. 1 Delgado gr, 1 mi s Mathis, digging pits. Geo. E. Smith et al's J. L. Britton 2, 660 ft due e No. 1, blk 8, sec 5, Third addition Taft Farm lands, dr 2435 ft. L. L. Smith's W. G. Thomas 1, lot 5, sec 6, Third add. Taft Farm Lands, ¾ mi e discovery well Taft field, lcn. Stanolind O&G Co.'s Alamo Iron Works 1, lot 17, Patrick Fitzsimmons sur, 3 mi sw Sinton, td 5730 ft, changing bits, feeling for 5800 foot sand; Floerke 1, 1320 ft sel, 150 ft nel, lot 5, blk 17, 1st addition, Taft Farm lands, 4 mi s and e of Taft field, lcn.

STARR COUNTY—Ash & Tackett's R. E. Margo 1, blk 4, sh 3-B, Porc 70, Juris of Mier, td 378 ft, prep run tubing and test sand 372-76 ft. O. C. Borah et al's V. C. de Guerra 1, sh 92, Porc 68, 2 mi n of Roma, abnd, moved 10 ft to new lcn; No. 1-A Guerra, sh 92, in Porc 68, Mier Juris, 2 mi n of Roma, set 8½ inch sur csg at 202 ft. John H. Clopton's Kelsey Bass 1, center sec 357, 8 mi s of Cuevitas, dr 448 ft; Roos & Bennett et al 3, blk 6, Clopton sub, Porc 92, 1 mi n Rio Grande, 6 mi w Samfordyce, td 4003 ft, ran Schlumberger, set 5 in csg 2650 ft, woc, will perf 2451-64 ft. Henshaw & Harrison (Cook-Maris-Arnold's) Starr County Cattle Co. 1, lot 24, Porc 84, 2000 ft north of State Highway No. 4, D&A 4000 ft. Coreta Pet. Co.'s J. H. Burnett (Haden et al) 1, sh 47, Porc 80, dr 900 ft. Griffin & Kimbrough's Guerra 1, sh 298, Porc 69, n of Mier, prep to mim. Harter & Mayhew's Sanchez 3, 739 ft nl, 1112 ft wl, sh 69, Porc 72, n Roma, sd 512 ft. Marc Jenkins' Wm. Martin 1, sec 627, 13½ mi ne of Rio Grande City, dr 775 ft. Hiriam M. Reed's Starr County Cattle Co. 1, blk 6, Jeffries Lambet subd, Porc 89, td 3013 ft, sd 2542 ft in pb hole. Sun Oil Co.'s M. Guerra & Sons 10-A, 3850 ft swl, 4900 ft sel, Las Cuevitas gr, Cuevitas district, td 2274 ft, sand 2259-74 ft, dst show 400 ft oil, some gas, no water, set csg 2259 ft, woc. A. F. Vannoy et al's (Marc Jenkins et al) H. Garza Jr. 1, blk 10, sh 26, Porc 70, nw of Roma, sd 887 ft for pump repairs. A. J. Weyel's Wardner 1, 431 ft sl, 244 ft el of 160-ac tr, Porc 84, td 2040 ft, blew out, making gas, salt water and little oil, running wild. Otto W. Woods' H. P. Guerra 1, lot 35, Conroe subd, Porc 55, Mier Juris, lcn.

TRAVIS COUNTY—Richey's Lungren 1, 330-ac tr in Kimbro sur, in blk 14, sd 410 ft.

VICTORIA COUNTY — Gillespie & Superior's Henderson & Pickering 1-B, 330 ft sl and wl, blk 93, SA&MG Ry. sur, ab 308 1 mi w of production, lcn. S. A. Guiberson & Chas. Pettit's Oscar Wedemeier 1, sw 5150 ft along nwl of Jose Carabajal sur fr GH&SA Ry, thence 1320 ft se at right angles, (406.82-ac tr) 4 mi nw of Victoria, mim, Burton Drlg. Co. contract. Heep Oil Corp.'s J. J. Welder 1, Phillip Graves sur, near Nursery, lcn temp abnd. S. C. Yingling's Jacob Stehle 1, 157ac tr, P. Gallardo sur, ab 32, 1 mi sw of Coleto Creek field, sp 5500-foot test.

WEBB COUNTY—Mills Bennett's B. Garcia 1, 330 ft sl and el of s 1/3 of w ½ of sur 709, set 8⅝ in csg at 61 ft, woc. D. E. C. Oil Co.'s Slator Ranch 1, blk 29, Mission Oil Co. subd. Slator Ranch, J. S. Borrego gr, sd 2624 ft. O. W. Killam's Ortiz Ranch 1-A, 50 ft n No. 1, Porc 17, 6 mi nw Laredo, dr 1980 ft; Ortiz Ranch 2, sec 1805, 14 mi ne Laredo, dr 3245 ft. Payne & Martinez's Mrs. M. P. Perry 1, sur 771, lcn. Holland S. Reavis' C. H. Webster 1, nw ne sec 684, 1 mi e Carolina-Texas field dr 3365 ft. S. S. & B. Oil Co.'s Lone Star Construction Co. 9, Porc 12, ½ mi nw of Laredo, sd 1010 ft. Superior Oil Co.'s A. S. Billings 1, sec 7, 1 mi w Lopez field, coring 2180 ft. W. H. Vernor, Tr.'s Jefferies Ranch 1, blk 13, sec 1453, 30 mi nw Laredo, dr 695 ft. A. H. Wray's Geo. Steumpke 1, sh 1, Brewster Pasture, Joaquin Galan gr, sd 1678 ft.

WILLIAMSON COUNTY—Glass Bros.' A. Albert 1, P. Coursey sur, sd 785 ft. H. F. Goff's Chas. Patschke 1, 100-ac tr in Foley sur, sd 255 ft. G. A. Ripley 1-A A. Muery, (second hole), sd 1010 ft, shale.

WILSON COUNTY—Comet Oil Co.'s Jim McDaniel 1, 343-ac tr in Conception Botello sur, 4 mi Poth, sp and sd. A. G. Reimenschneider's Lon Harrell 1, 209-ac tr in Manuel Baerrera sur, 5 mi s of Floresville, fsh 567 ft, dst 563-67 ft, tested 5 gal mud.

ZAPATA COUNTY—Murt Cullinan's E. Gutierrez 1, blk 4, sh 2, Fansler Partition Comitas gr, 2 mi w Escobas field, dr ahead 1440 ft, tested 13 thribbles sw. J. W. Magee's Bruni 1, blk 45, Blas Uriba Tr, J. V. Borrego gr, sand 1861 ft, gas sand 1836-38 ft, salt water sand 1853-61 ft. J. J. O'Hern et al's S. Neal 1, blk 3, Porc 27, 7 mi ne of Charco Redondo field, dr 2210 ft.

ZAVALLA COUNTY—W. L. Bridges' E. B. Flowers 1, 1320 ft nl and wl sec 19, blk 1, I&GN RR. sur, lcn. Frank Buttram et al's Whitecotton 1, B&M sur No. 1, dk. Leona Oil Corp. & Witherspoon Oil Co.'s Geo. West 1, C. Bustillo sur No. 1, lcn.

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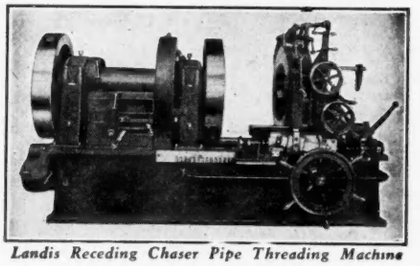

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TEXAS GULF COAST

BRAZORIA COUNTY—Gulf's Fairfield 1, Sandy Point prospect, A. Robeson sur, ru.

BURLESON COUNTY—Carl Dyer et al's Young 1, s of Caldwell, J. Bird sur, sd 1740 ft. Walter Blumenthal's Crain 1, se of Rockdale, W. C. Pierce sur, wcc 2739 ft.

CHAMBERS COUNTY — Black Gold Pet. Co.'s Barrow 1, Jackson Lake prospect, R. Barrow sur, washing to bottom at 6023 ft.

COLORADO COUNTY — Coyle-Concord's Powell 2-B, Garwood area, I&GN sur, sec 45, sd 6120 ft.

GALVESTON COUNTY — Sun's J. E. Hughes 1, Green Lake prospect, W. C. M. Baker sur, dr sand 7508 ft.

HARDIN COUNTY—Republic Prod. Co.'s Burrell Fee 1, n of Silsby, A. A. Burrell sur, dr shale 4726 ft.

HARRIS COUNTY—A. C. Hill's Swilley 1, Sheldon prospect, Victor Blanco sur, dr shale 6216 ft; Same operator's Swilley 1-B, Victor Blanco sur, sd 7566 ft. Texas Gulf Producing Co.'s Westmoreland 1, Bellaire prospect, J. B. Pier sur, dr lime 5740 ft.

JEFFERSON COUNTY — Glenn H. McCarthy's Howeth 1, Little Pine Island prospect, T&NO sur, sec 70, dr shale 7450 ft. Humble's E. Langham 1, Amelia prospect, C. Williams sur, dr sandy shale 6410 ft. Sun's Broussard 1, Labelle prospect, B. Blackmon sur, heaving shale 8824 ft. Tatum & Pendigrass's Owens 1, n of Port Arthur, sd 1850 ft.

MATAGORDA COUNTY — Continental's Feife 1, Citrus Grove prospect, J. S. Chriswell sur, cutting and pulling 7541 ft. John Deering's Estille et al 1, Cedar Lane prospect, Tone & Jamison sur, dr shale 6092 ft. Hamman Exploration Co.'s Cleveland 1, one and half miles se of Bay City, E. Hall sur, dr shale 8558 ft. Helmerick & Payne's Hawkins 1, Sheppards Mott, D. A. McCarthy sur, dr shale 7689 ft. Sterling's Baer 1, sw of Sargent, S. Hoit sur, sd 6010 ft. Sun's Craig 1, s flank of Hawkinsville dome, T. Williams sur, dr sand 4500 ft.

MONTGOMERY COUNTY—W. C. Battaille's D. H. Caswell 1, 4 mi s of Conroe field, D. Davis sur, dk. Jack Frazier's Maxey 1, Goodwin area, James Brown sur, dk. Chapman & Smith's Delta Land 1, Dacus area, T. Sheppard sur, dr clay 306 ft. Wm. Thompson et al's J. B. Scott 1, F. Wheeler sur, milling at 1900 ft.

POLK COUNTY—Daily & Boeauden's Knox 1, F. Chair sur, dr shale 1744 ft.

SAN JACINTO COUNTY — Cockburn's Cruse 1, Keno prospect, H&TC sur No. 103, dr plug at 410 ft; Same operator's K. Moore 1, n of Rayburn, J. F. D. Rumayor sur, dr plug at 381 ft. C. Gholson & L. Decker's Randolph 1, Evergreen area, V. Flores sur, dk. Ralph Stern & Gulf's R. B. Love Est. 1, nw of Cold Springs, D. McGee sur, sd 5670 ft.

WALKER COUNTY—Neuva Petrolia Co.'s Tonty Lbr. Co. 1, New Waverly area, J. C. Harrison sur, dr shale 1352 ft.

WHARTON COUNTY—Pure's E. Paige 1, Blue Basin prospect, J. Pirie sur, sd 7676 ft.

WYOMING

CARBON COUNTY—General Petroleum Corporation Whitford 1, sw se ne 24-20n-84w, dr 6334 ft with its objective the Sundance expected any time. Sundance formation was topped at 6260 ft.

Catalogs... Bulletins

Diesel Electric Generator

Caterpillar Tractor Company, Peoria, Illinois, has issued an interesting booklet describing its Diesel-electric generator sets.

Calendar

Cooper-Bessemer Corporation, Mount Vernon, Ohio, has again adhered to its very high standard set in previous years, by its new 1936 calendar. Copies of the calendar may be had by applying to E. R. Bonnist, Cooper-Bessemer Corporation, Mount Vernon, Ohio.

Pumps

Worthington Pump and Machinery Corporation, Harrison, New Jersey, has ready for distribution bulletin No. W-101-B2A, describing the horizontal duplex piston pump it manufactures.

Boiler Instruments

Cochrane Corporation, Philadelphia, has ready for distribution an attractive booklet that describes the Hays-Carrick-Cochrane boiler instruments, including combustion control and flow meters.

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This Week with the Industry's EQUIPMENT SUPPLIERS

W-K-M Company Add Lines

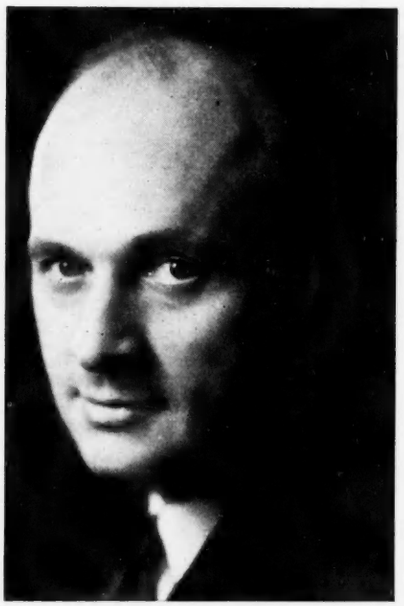
W-K-M Company, Houston, Texas, has taken over the manufacture and sales rights of a portable drilling machine for exploration and core drilling work from the King-Jones Core Drill Manufacturing Company, of Hutchinson, Kansas. This improved design of portable drilling machine will shortly be placed on the market by W-K-M.

W-K-M Company also has been named by Merco Centrifugal Separator Company, San Franciso, exclusive export distributors for the Merco Centrifugal separator. This appointment represents an increase in the exclusive sales rights of W-K-M Company, already the exclusive distributors in the Mid-Continent and Gulf Coast for this separator for desanding rotary drilling muds.

Merco-Nordstrom Valve Company Holds Conference

Merco Nordstrom Valve Company, Oakland, California, recently sponsored for its representatives throughout the United States a week of study and sales conferences in its Oakland plant. W. F. Rockwell, president of the organization, conducted the study and conference, acquainting the representatives with latest developments in valve manufacturing processes.

Just prior to opening the conference, the sales staff of Merco Nordstrom Valve Company attended the annual convention of the A.P.I. in Los Angeles. Immediately thereafter they made an extensive tour of California oil fields.



CHES. C. HERNDON

Ches. C. Herndon Made Hanlon-Waters Manager

Announcement is made of the appointment of Ches. C. Herndon as manager of Hanlon-Waters, Inc., in Tulsa. This promotion became effective January 1 and gives him supervision over both manufacturing and sales departments in the company. He has been associated with the Hanlon interests since 1926, his ex-

Nordstrom Valve sales organization in session at Oakland plant. Bottom row, left to right: S. T. Pollak, Oakland, California; M. H. Weston, New York; P. S. Williams, Oakland; James Baker, Houston; F. K. Spurrier, Oakland; E. E. Matheson, San Francisco; A. J. Kerr, Tulsa. Center row, left to right: R. F. Cleary, Oakland; F. H. Ricker, Oakland; L. A. Dixon, Pittsburgh. Top row, left to right: G. F. Scherer, Oakland; J. L. Walden, Oakland; E. E. Hedene, Oakland; Walter H. Davis, Oakland; Colonel W. F. Rockwell, Pittsburgh; S. J. Nordstrom, Oakland; W. J. Menefee, Oakland; Russ Waters, Bakersfield; C. H. Wyman, Chicago; H. Boezinger, Los Angeles.

perience including designing as well as manufacturing and sales. Prior to that he was assistant superintendent of the Transcontinental (now Marathon) refinery at Bristow, Oklahoma.

Niesemann Returns from Valve Research in Europe

Pittsburgh Equitable Meter Company, Pittsburgh, Pennsylvania, announces the return of F. Niesemann, research engineer, from Europe, where he has completed a study of precision meters, particularly those used in Germany. His trip was the result of impressions gained by W. F. Rockwell, president of the company, on a previous trip through various European valve manufacturing plants. Upon returning to this country, Niesemann, who is responsible for a number of inventions in the industry covering oil and gas meters and pressure regulators, reported a marked improvement in European business conditions.

F. NIESEMANN

Stout Is Now With Bradford Motor

R. Verne Stout is now representing Bradford Motor Works, Bradford, Pennsylvania, in Texas with headquarters at Tyler, P. O. Box 387. Stout is well known among equipment and oil people throughout the Southwest, since he has been traveling through Texas, Oklahoma, Louisiana and Arkansas as sales representative for various equipment manufacturers during the past 15 years. Prior to his present connection Stout was with Mid-Continent Supply Company, traveling out of Houston.

Mead Put in Charge of Harnischfeger Chicago Office

Harnischfeger Corporation, Milwaukee, announces the appointment of R. L. Mead as manager of the corporation's Chicago office at 20 North Wacker Drive. For six years Mead was with Industrial Brownhoist Company. Subsequently, he was with The Ohio Locomotive Crane Company, McMyler Interstate Company, and most recently he was with Link Belt Company as district sales manager. He takes charge in the Chicago territory of sales covering the complete line of Harnischfeger products including excavators, cranes, hoists, welders, motors, barrel renovators and brewery equipment.

National Tube Company Opens Houston Office

National Tube Company has announced the opening of a branch sales office in the Gulf Building, Houston, Texas. Forrest A. Marsh, formerly field engineer with National Tube Company, has been placed in charge of the Houston office as sales agent.

Brower Made Director in Timken Organization

Timken Roller Bearing Company, Canton, Ohio, announced election January 11 of R. C. Brower to the board of directors to fill the vacancy caused by the recent death of J. G. Obermier. Brower joined the Timken organization in 1916 as assistant manager of the Timken Service and Sales Company, later becoming manager. He was then appointed assistant secretary-treasurer of Timken Roller Bearing Company, and in 1930 became secretary-treasurer of the company, a position he held at time of his election to the board.

Republic Steel Moving Headquarters to Cleveland

Republic Steel Corporation's general offices will be removed from Youngstown, Ohio, to Cleveland, Ohio, January 25, it is announced by T. M. Girdler, president and chairman of the board. The offices will occupy floors 13 to 16 inclusive in the former Medical Arts building, recently renamed the Republic building. The move consolidates the general offices which have been located in Youngstown, the executive and Cleveland district sales offices formerly in the Union Trust building, Cleveland, and the advertising department, Massillon, Ohio. The sales offices of the Newton Steel Company will also be located in Cleveland. Departments affected in the move include: general operating, general sales, treasury, purchasing, accounting, credit, claims, ordering, coding, traffic, patent, advertising and sales promotion, sheet and strip sales, pipe sales, bar sales, tin plate sales, railroad sales, culvert sales, pig iron and by-product sales, engineering, industrial engineering, salvage and reclamation, and industrial relations.

Sales offices of the Alloy Steel Division will remain in Massillon, Ohio.

Waukesha Motor Head Dies at Battle Creek

Harry LeVan Horning, founder and president of Waukesha Motor Company, died at Battle Creek Sanitarium, January 4. He was 55 years old.

In April, 1906, in company with business associates, he organized Waukesha Motor Company, and became its chief engineer and general manager. National prominence came to him when he was chairman of the automotive section of the war industries board, and served as a dollar a year man. In 1925 he became president of the Society of Automotive Engineers, and his activity in the Cooperative Fuel Research program led him into many technical associations of wide importance.

He was a past president and life member of the Society of Automotive Engineers, member of the Automotive Engineering Society of Great Britain, the American Society for Testing Materials, past president of the Motor & Equipment Manufacturers Association, the first president of the Internal Combustion Engine Institute, director of the Automotive Parts & Equipment Manufacturers Association, and a member of the American Petroleum Institute, and the National Association of Manufacturers.

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We make or buy all equipment used by a constantly growing number of seasoned, successful men who drill and produce oil wells. So we are very proud of the unsavory reputation we have earned among manufacturers whose products fail to measure up to the standards imposed by ourselves and our customers. As a Chinese proverb might go, a rose in your neighbor's garden may smell like the striped kitten.

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Squeaks from the Bull Wheel

Campaign Opener

As each political campaign draws near there is a plethora of jokes. No. 1 joke of the coming campaign seems to be the following, which is being told widely, says the Bridgeport Bulletin.

A Sunday School teacher was trying to impress her class of small boys with the omnipotence of the Deity.

"Johnny," she asked, "who gives you the clothing, the shoes, and the cap you wore to Sunday School this morning?"

"President Roosevelt," replied Johnny.

The teacher was nonplussed. She tried again.

"Bobby, who gives you your meat, bread, milk and other things to eat?"

"Secretary Wallace," said Bobby.

The Sunday School teacher was confounded. It wasn't going right at all, but she persisted.

"Tommy," she asked, fearing what might come, "who gives you the sun, the stars, and the flowers?"

"God," said Tommy.

At last! The teacher smiled with gratification.

A little boy next to Tommy seized his sleeve saying:

"Sit down, you dirty little Republican!"

Stale One Revived

Temperance Lecturer: If I lead a donkey up to a pail of water and a pail of beer, which will he choose to drink?

Soak: The water.

And why?

Because he is an ass.

Not "Round and Around"

An old German was being cross-examined on the witness stand as to the position of a door, window, etc., and the general interior arrangement of a house in which a crime had been committed.

"And now, sir," said the lawyer, "describe to the jury just how the stairs run in that house."

The old man looked dazed and scratched his head for a minute before attempting to reply. "You wan to know how der stairs run?" he repeated.

"Yes, if you please, how the stairs run."

"Vell," ventured the witness, slowly, "ven I am oopstairs dey run down, and ven I am downstairs dey run oop."

Knew What She Wanted

Spinster: "Come up at once. Two men are trying to climb in my window."

Fire Chief: "Sorry, miss, but this is the fire department. What you want is police headquarters."

Spinster: "Oh, no. My room is on the third floor and what they need is a ladder."

Unprofitable

A six weeks-old calf was nibbling at the grass in the yard, and was viewed in silence for some minutes by the city girl.

"Tell me," she said, turning impulsively to her hostess, "does it really pay you to keep as small a cow as that?"

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Telephone Conversation

A telephone lineman with a broken leg was taken to a hospital for treatment. After his leg had been set, the nurse asked him how the accident occurred. He replied:

"You see, ma'am, it was this way: 'I was stringing for the company and I only had one ground mole. He sent up a big come-along and she was a heavy one. I was pullin' on her and yelled to the mole to give the guy a wrap; instead he threw a sag into her, and that broke my leg."

"Yes," the nurse replied, "but I don't exactly understand."

"Neither do, I," said the lineman, "The darn fool must have been crazy."

Important Point

When the colored couple were being married by the clergyman and the words, "Love, honor and obey," were spoken, the bridegroom interrupted:

"Read that again, suh. Read it once mo' so's de lady kin ketch de full solemnity ob de meanin'. I'se been married befoh."

Usaidamouthful

"Watchagotna packidge?"

"Sabook."

"Wassanaimuvitt?"

"Sadickshunery, fullinaims. Wife's gonna getta plecdog angottagettanaimferim."

Down in Arkansas

An Arkansas backwoods woman, the soles of whose feet had been toughened by a lifetime of shoelessness, was standing in front of her cabin fireplace one day when her husband addressed her.

"You'd better move your foot a mite, maw; you're standin' on a live coal."

Said she, nonchalantly: "Which foot, paw?"

Preparedness

Steno:—"The boss is having me do a little filing every day now."

"Why is that?"

"Because I scratched him the last time he tried to kiss me."

What Ethel Saw

Little Ethel had had a fortnight in the country for the first time in her life.

"Did you see them milk the cow, Ethel?" asked her mother on her return.

"No, mother," was the reply, "but I saw them unmilk her."

Well Aged

"Here's a good joke. You'd better give me the shears."

"Yeah, to trim the whiskers on it."

Silent Jim

Newspaper Item: Mrs. Lottie Prim was granted a divorce when she testified that since she and her husband were married he had spoken to her but three times. She was awarded the custody of their three children.

Poyfect English

Curio Dealer: "'Erere's a nice pair o' 'orns; on'y a coupla o' pounds."

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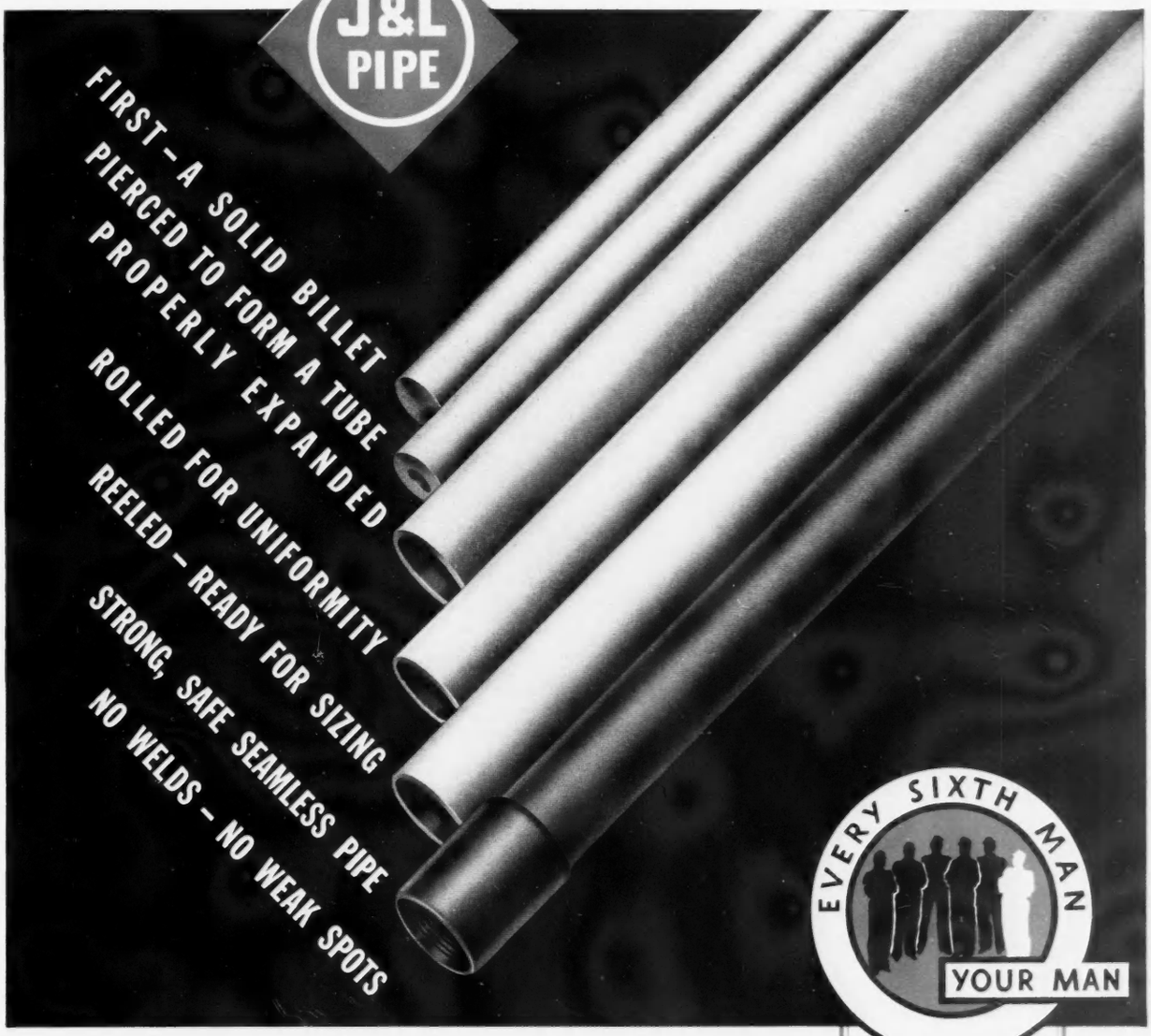

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